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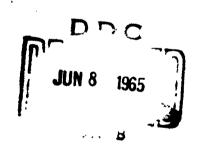
# **Beach Process Studies**

Technical Report No. 23
Part A

Selected Bibliography
On Beach Features and Related Nearshore Processes

Compiled by
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and
James McCloy

Coastal Studies Institute Louisiana State University Baton Rouge, Louisiana



Contribution No. 648

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# SELECTED BIBLIOGRAPHY

# ON BEACH FEATURES AND RELATED NEARSHORE PROCESSES

Compiled by

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# CONTENTS

# PART ONE: SUBJECT REFERENCES

I.	THE BEACH AND NEARSHORE				
	A.	Coastal Morphology			
		l.	General	1	
		2.	Beach Ridges	2	
		3.	Coastal and Beach Dunes	3	
		4.	Inlets	3	
		5.	Storm Induced Changes	3	
	B.	Bes	ach Morphology	4	
		1.	General	4	
		2.	Beach-face Configuration	8	
		3.	Nearshore Bottom Configuration	8	
		4.	Primary Structures and Minor Features	9	
	C.	Me	asurement Techniques	11	
		1.	Beach (Sub-aerial)	11	
		2.	Nearshore (Submarine)	12	
	D.	Sediment Properties and Transport			
		1.	Sediment Characteristics	13	
			a. General	13	
			b. Measurements	16	
			c. Sampling	17	
		2.	Sediment Transport	18	
			a. General	18	
			b. Transport by Waves	20	
			c. Littoral Drift	22	
			d. Other Methods of Transport	23	
			e. Tracer Studies	23	
п.	BEACH AND NEARSHORE PROCESSES				
	A.	Ger	neral Wave Theory	26	
	B.	Sho	paling and Breaking Waves	31	

		l. General	31	
		2. Wave Refraction	34	
		3. Littoral Currents	35	
	C.	Tides and Tidal Currents	35	
	D.	Storms and Hurricanes	36	
	E.	Aeolian Processes	37	
	F.	Measurement Techniques	38	
III.	COASTAL ENGINEERING			
	A.	General Coastal and Beach Engineering	39	
	В.	Specific Engineering Problems	43	
ιv.	QUA	ANTITATIVE ANALYSIS OF DATA	47	
	A.	Directly Related to Beaches or Coasts	47	
	В.	Indirect Application to Beaches or Coasts	48	
v.	BIBLIOGRAPHIES AND OTHER SOURCE MATERIALS			
	A.	Reference Books	50	
	В.	Other Bibliographies	51	
	C.	Periodicals	52	
	D.	Miscellaneous	53	
		PART TWO: AUTHORS		
I.	Alp	habetical Index of Authors	55	

#### SELECTED BIBLIOGRAPHY

#### ON BEACH FEATURES AND RELATED NEARSHORE PROCESSES

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#### Robert Dolan and James McCloy

This bibliography is intended to make available to those interested in beach and coastal research references acquired by the authors during the past several years. Specific fields covered are outlined in the table of contents. In addition to being restricted to these topics, this listing is selective in that it is based principally on (a) materials available in the libraries of Coastal Studies Institute and Louisiana State University, and (b) references considered most relevant by the compilers.

Although no attempt was made to time-restrict the materials considered, about 80 per cent of the references are post-1940. This reflects not only the lack of beach process research before World War II, but also the descriptive character of most earlier work. Several general sources for the pre-1940 literature are included in the section headed "Bibliographies and Other Source Materials," for example D. W. Johnson's (1919) Shore Processes and Shoreline Development.

A number of the general papers could be listed under more than a single subject heading; consequently, their classification is based upon the authors' evaluation of their principal content. Some reference materials which were not available have been included according to title only if they seemed to be applicable to the subject of beach and coastal research. Accuracy of entries was checked, but since this was not an exercise in bibliographic research, some irregularities are to be expected.

This bibliography is believed to contain approximately 75 per cent of the most pertinent literature on the subjects under consideration. Many of the references not included here are cited within the entries listed under "Bibliographies and Other Source Materials."

The general organization of the bibliography follows that used by G. T. McGill (1960) <u>Selected Bibliography of Coastal Geomorphology of the World</u>. Style for the individual citations is a slight alteration of that recommended in <u>Suggestions to Authors of Reports of the United States Geological Survey</u>.

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It is recognized that bibliographies of this nature sometimes omit important references. This initial compilation should, therefore, be considered in terms of a working bibliography, subject to changes. Suggestions and additions are solicited and when sufficient materials have accumulated, a supplement will be issued.

ACKNOW LEDGEMENTS: Special appreciation is extended to Dr. James Plumer Morgan who suggested that the bibliography be compiled and made his personal library available. We also wish to thank the following Coastal Studies Institute personnel for making their reference material available: Mr. James M. Coleman, Mr. Rodney B. Adams, and Mr. S. M. Gagliano. The authors also acknowledge the assistance of Mr. P. B. Larimore in preparation of the final report, and Mrs. Grace Fitzgerald in the tedious job of typing the final draft.

# PART ONE SUBJECT REFERENCES

#### I. BEACH AND NEARSHORE

#### I. A. COASTAL MORPHOLOGY

#### I.A.1 COASTAL MORPHOLOGY, GENERAL

- Antonini, G. A., 1962, Development of the Horseshoe Cove Shoreline, Sandy Hook, New Jersey: Office of Naval Research, Geog. Branch, Tech. Report No. 3.
- Athearn, W. D., and Ronne, C., 1963, Shoreline changes at Cape Hatteras: Naval Research Reviews, p. 17-24.
- Barnes, F. A., and King, C. A. M., 1957, The spit at Gibraltar Point, Lincolnshire: East Midland Geog., v. 8, p. 22-31.
- Bird, E. C. F., 1961, The coastal barriers of East Gippsland, Australia: Geog. Jour., v. 127, p. 460-468.
- Bruun, P., 1954, Migrating sand waves or sand humps, with special reference to investigations carried out on the Danish North Sea Coast: Coastal Engineering, Proc. Fifth Conf., p. 269-295.
- Cooper, A. W., 1964, Smith Island and the Cape Fear Peninsula: A comprehensive report on outstanding natural area: Conservation and Legislative Committee, North Carolina Academy of Science and Wildlife Preserves, Inc.
- Egorov, E. N., 1953, Facts observed about spits extending from beaches: Trudy Instituta Okeanologii AN/SSSR, v. 7.
- Escoffier, F. F., 1954, Traveling forelands and the shore line processes associated with them: U. S. Beach Erosion Board Bull., v. 8, p. 11-14.
- Evans, O. F., 1942, The origin of spits, bars, and related structures: Jour. Geology, v. 50, p. 846-865.
- Gilbert, G. K., 1885, The topographic features of lake shores: U. S. Geol. Survey Ann. Report, v. 5, p. 69-123.

- Gilluly, J., 1964, Atlantic sediments, erosion rates, and the evolution of the continental shelf: some speculations: Geol. Soc. America Bull., v. 75, p. 463-492.
- Grant, U. S., and Shepard, F. P., 1936, Changes along the California Coast: Geol. Soc. America Proc., p. 75-76.
- Grijm, W., 1960, Theoretical forms of shorelines: Coastal Engineering, Proc. Seventh Conf., p. 197-202.
- Gulliver, F. P., 1896, Cuspate forelands: Geog. Soc. America Bull., v. 7, p. 399-422.
- Jarocki, W., 1960, Wave effect on the coast formation and erosion: Coastal Engineering, Proc. Seventh Conf., p. 203-210.
- Jennings, J. N., 1955, The influence of wave action on coastal outline in plan: Australian Geog., v. 6, p. 36-44.
- Knox, R. W., 1953, Evolution of the North Carolina Coast: Shore and Beach, v. 21, p. 12-14.
- Krumbein, W. C., 1950; Littoral processes in lakes: Coastal Engineering, Proc. First Conf., p. 155-160.
- Lewis, W. V., 1932, The formation of Dungeness foreland: Geographical Jour., v. 80, p. 309-324.
- Lewis, W. V., 1938, Evolution of shoreline curves: Geol. Assoc. Proc., v. 49, p. 107-127.
- Leypoldt, H., 1941, Shoreline formation by currents: Shore and Beach, v. 9, p. 21.
- Norris, R. M., 1952, Recent history of a sand spit at San Nicolas Island, California: Jour. Sed. Petrology, v. 22, p. 224-228.

- O'Brien, M. P., and Evans, O. F., 1941, Shoreline formation by currents: Shore and Beach, v. 9, p. 46-47.
- Potter, F. C., and Trager, E. A., 1938, Geologic Report: Cape Hatteras National Seashore: Unpoblished report, National Park Service, Washington, D. C.
- Rude, G. T., 1922, Shore changes at Cape Hatteras: Assoc. Am. Geog., Annals, v. 12, p. 87-95.
- Russell, R. J., 1958, Long, straight beaches: Eclogae Geologicae Helvetiae, v. 51, p. 592-598.
- Schou, A., 1948, Det marine forland: U. S.
   Beach Erosion Board Bull., v. 2, p. 13-14.
- Shaler, N. S., 1871, On the causes which have led to the production of Cape Hatteras: Boston Soc. Nat. Hist. Proc., v. 14, p. 110-121.
- Shepard, F. P., 1952, Revised nomenclature for depositional coastal features: Am. Assoc. Petroleum Geologists Bull., v. 36, p. 1902-\ 1912.
- Shuster, C. N., 1963, Our ever-changing coastline: Estuarine Bull., Univ. Delaware, v. 7, p. 3-15.
- Smith, P. A., 1938, Revised classification of marine shorelines by F. P. Shepard (review): Jour. Geomorphology, v. 1, p. 254-255.
- Steers, J. A., 1951, Notes on erosion along the Coast of Suffolk: Geol. Mag., v. 88, p. 435-439.

- Taney, N. E., 1961, Geomorphology of the south shore of Long Island, New York: U. S. Beach Erosion Board Tech. Memo. 128.
- Tanner, W. F., 1961, Offshore shoals in area of energy deficit: Jour. of Sed. Petrology, v. 31, p. 87-95.
- Tanner, W. F., 1962, Reorientation of convex shores: Am. Jour. Sci., v. 260, p. 37-43.
- Trask, P. D., 1956, Changes in configuration of Point Reyes Beach, California, 1955-56:
   U. S. Beach Erosion Board Tech. Memo. 91.
- Tuttle, S. D., 1960, Evolution of the New Hampshire shoreline: Geol. Soc. America Bull., v. 71, p. 1211-1222.
- Vause, J. E., 1959, Underwater geology and analysis of recent sedimentation of the northwest Florida Coast: Jour. Sed. Petrology, v. 29, p. 555-563.
- Yasso, W. E., 1964, Geometry and development of spit-bar shorelines at Horseshoe Cove, Sandy Hook, New Jersey: Tech. Rept. No. 5 of Project NR 388-057, Contract Nonr 266(68) Office of Naval Research Geography Branch, Washington, D. C.
- Zenkovitch, V. P., 1959, On the genesis of cuspate spits along lagoon shores: Jour. Geology, v. 67, p. 269-277.
- Zenkovitch, V. P., 1962, Some new exploration results about sand shores development during the sea transgression: De Ingenieur, no. 17, Bouw- en Waterbouwkunde 9, p. 113-121.

## I. A. 2. COASTAL MORPHOLOGY, BEACH RIDGES

- Bird, E. C. F., 1960, The information of sand beach ridges: Australian Jour. Sci., v. 22, p. 349-350.
- Davies, J. L., 1957, The importance of cut and fill in the development of sand beach ridges: Australian Jour. Sci., v. 20, p. 105-111.
- Davies, J. L., 1958, Analysis of height variations in beach ridges: Australian Jour. Sci., v. 20, p. 21-22.
- Grant, U. S., 1940, Barrier beach formation at Long Beach, California: Geol. Soc. America Bull., v. 51, p. 1957-1958.
- Heezen, B. C., 1959, Submerged ancient beaches of the Atlantic: International Oceanographic Conf., p. 622.
- Hoyt, J. H., Vernon, J. H., and Weimer, R. J., 1962, Geologic history and development of the Barrier Islands in the vicinity of Sapelo Island, Georgia: Geol. Soc. America Program Southeastern Section, p. 21.

- McKenzie, P., 1958, The development of beach sand ridges: Australian Jour. Sci., v. 20, p. 213-214.
- Price, W. A., 1951, Barrier Island, not offshore bar: Science, v. 113, p. 487-488.
- Shepard, F. P., 1960, Gulf coast barriers: Recent Sediments, Northwest Gulf Mexico, 1951-58, p. 197-220. Consolidated Bibliography, p. 368-381.

#### I. A. 3. COASTAL MORPHOLOGY, COASTAL AND BEACH DUNES

- Aufrere, L., 1931, Le cycle morphologique des dunes: Annales de geographie, v. 40, p. 362-385.
- Bagnold, R. A., 1941, Sand formations in south Arabia; Geog. Jour., v. 117, p. 77-86.
- Bryan, K. and Nichols, R. L., 1939, Wind deposition shorelines: Jour. Geology, v. 47, p. 431-435.
- Cooper, W. S., 1934, Types of Pacific Coast dunes: Am. Assoc. Geog. Annals, v. 24, p. 46.
- Cooper, W. S., 1958, Coastal sand dunes of Oregon and Washington: Geol. Soc. America Memo. 72, 169 p.
- Landsberg, S. Y., 1956, The orientation of dunes in Britain and Denmark in relation to the wind: Geog. Jour., v. 122, p. 176-189.

- 57. Page, G. B., 1950, Beach erosion and composition of sand dunes, Playa del Rey El Segundo area, California: Univ. Calif., Los Angeles, M. A. Thesis, 50 p.
- Schou, A., 1952, Direction determining influence of the wind on shoreline simplification and coastal dunes: VIIIth General Assembly-XVIIth Congress, International Geographical Union Proc., Washington, D. C.
- Shaler, N. S., 1894, Phenomena of beach and dune sands: Geol. Soc. America Bull., v.5, p. 207-212.
- Smith, H. T. U., 1954, Coastal dunes: Coastal Geography Conf., Office of Naval Research p. 51-56.

#### I.A.4. COASTAL MORPHOLOGY, INLETS

- Bowman, J. C., 1953, The case for Lockwood's Folly Inlet: Shore and Beach, v. 21, p.23-27.
- Brown, E. I., 1928, Inlets of sandy coasts: Am. Soc. Civil Engineers, Proc., v.54, p. 505-553.
- Brown, R. C., 1953, Birth of an inlet Carolina Beach Inlet, N. Carolina: Shore and Beach, v. 21, p. 20-21.
- Drane, B. S., 1923, Additional inlets on the North Carolina coast: North Carolina Fisheries Commission.
- Rude, G. T., 1928, Discussion of inlets on sandy coasts: Am. Soc. of Civil Engineers, Proc., v. 54, p. 503-553.
- 66. Saville, T., Jr., 1941, Investigations of coastal erosion and inlet migrations in North Carolina: Shore and Beach, v. 2, p. 29-32.
- 67. Welch, W. L., 1886, Opening Hatteras Inlet: Essex Inst., Bull., v. 17, p. 37-42.

## I.A.5. COASTAL MORPHOLOGY, STORM INDUCED CHANGES

- Bamesberger, J. G., 1939, Erosion losses from a 3-day California storm: U. S. Dept. of Agri., Soil Conserv. Service
- Barnes, F. A., and King, C. A. M., 1955, Beach changes in Lincolnshire since the 1953 storm surge: East Midland Geog., v.4, p. 18-28.
- 70. Beach Erosion Board, 1948, Recent storm

- damage along the coasts of Florida and Mississippi: U. S. Beach Erosion Board Bull., v. 2, p. 1-7.
- Bretschneider, C. L., 1964, The Ash Wednesday east coast storm, March 5-8, 1962. A hindcast of events, causes, and effects: National Engineering Science Co. (NESCO report SN-134-4), Washington, D. C.

- Brown, C. W., 1939, Hurricanes and shoreline changes in Rhode Island: Geog. Rev., v. 29, p. 416-420.
- Bruun, P., Chiu, T., Gerritsen, F., and Morgan, W. H., 1962, Storm Tides in Florida as related to coastal topography: Florida Eng. and Ind. Exp. Sta., Univ. Florida, Cainsville, v. 16.
- Caldwell, J. M., 1959, Shore erosion by storm waves: U. S. Beach Erosion Board Misc. Paper, No. 1-59.
- Chamberlain, J. L., 1959, Influence of Hurricane Audrey on the coastal marsh of southwestern Louisiana: Coastal Studies Institute, Louisiana State University, Tech. Report No. 10, Part B.
- 76. Chute, N. E., 1946, Shoreline changes along the south shore of Cape Cod caused by the hurricane of Sept. 1944, and the storms of Nov. 30, 1944 and Jan. 1, 1945: U. S. Dept. of the Int., Geol. Survey.
- Hite, M. D., 1924, Some observations of storm effects on ocean inlets: Am. Jour. Sci., v. 207, p. 319-326.
- Howard, A. D., 1939, Hurricane modifications of the offshore bar of Long Island, N. Y.: Geog. Rev., v. 29, p. 400-415.
- Longinov, V. V., 1950, The transformation of beaches along the North Casucasian Coast by the action of storm waves in August of 1949: Priroda, no. 7.
- McCrone, W. P., 1956, Gulf hurricanes and their effects on Texas shores and beaches: Shore and Beach, v. 24, p. 23-27.
- 81. McEwen, G. F., 1935, Destructive high waves

- along the southern California coasts: Shore and Beach, v. 3, p. 61-64.
- 82. Morgan, J. P., 1959, Coastal morphological changes resulting from hurricane "Audrey": Salt Marsh Conf. Proc., The Marine Institute, University of Georgia, C.S.I. No. 59-6.
- Nichols, R. L., and Marston, A. P., 1939,
   Shoreline changes in Rhode Island produced by hurricane of September 23, 1938: Geol.
   Soc. America Bull., v. 50, p. 1357-1370.
- Podufaly, E. T., 1962, Operation five-high: Shore and Beach, v. 30, p. 9-18.
- Prentiss, L. W., 1951, Gulf hurricanes and their effects on the Texas coast: Coastal Engineering, Proc. Second Conf., p. 208-216.
- Price, W. A., 1956, Hurricanes affecting the coast of Texas from Galveston to Rio Grande: U. S. Beach Erosion Board Tech. Memo. 78.
- Snow, B. C., 1955, Effects of hurricane on North Carolina beaches: Shore and Beach, v. 23, p. 14-17.
- Stoddart, D. R., 1962, Catastrophic storm effects on the British Honduras reefs and cays: Nature, v. 196, p. 512-515.
- Todd, D. K., and Wiegel, R. L., 1951, Local storms of the Pacific Coast and their effects on wave and beach conditions: Berkeley, Calif., Eng. Foundation Tech. Rept. 324, 15. p.
- Ziegler, J. M., Hayes, R. H., and Tuttle, S. D., 1959, Beach changes during storms on outer Cape Cod, Massachusetts: Jour. Geology, v. 67, p. 318-336.

### I.B. BEACH MORPHOLOGY

#### I.B.1. BEACH MORPHOLOGY, GENERAL

- Anonymous, 1938, Manual procedure in beach erosion studies: U. S. Beach Erosion Board Paper No. 2.
- Bagnold, R. A., 1940, Beach formation by waves, some model experiments in a wave tank: Jour. Inst. Civil Eng., v. 15, p. 27-52.
- 93. Bascom, W. N., 1951, Shoreline and beach

- characteristics: Manual of Amphibious Oceanography, Office of Naval Research, Washington, D. C.
- Bascom, W. N., 1954, Characteristics of natural beaches: Coastal Engineering Proc. Second Conf., p. 163-180.
- 95. Bascom, W. N., 1960, Beaches: Scientific

- American, v. 203, p. 80-94.
- Beach Erosion Board, 1947, A study of comparative action of waves on model beaches of different scales: U. S. Beach Erosion Board Bull., v. 1, p. 5-8.
- Beach Erosion Board, 1947, Laboratory study of equilibrium beach profiles: U. S. Beach Erosion Board Bull., v. 1, p. 5-11.
- Bruun, P., 1953, Forms of equilibrium of coasts with a littoral drift: Berkeley, Calif., Eng. Foundation, Wave Research Lab. Tech. Rept., Series 3.
- Bruun, P., 1954, Coast erosion and development of beach profiles: U. S. Beach Erosion Board Tech. Memo. 44.
- 100. Caldwell, J. M., 1949, Beach erosion: Scientific Monthly, v. 69, p. 229-235.
- Cornish, V., 1898, On Sea-beaches and sandbanks: Geog. Jour., v. 11, p. 528-543.
- 102. Cornish, V., 1901, Sand waves in tidal currents: Geological Jour., v. 18, p. 170-202.
- 103. Eaton, R. O., 1950, Littoral processes on sandy coasts: Coastal Engineering, Proc. First Conf., p. 140-154.
- 104. Egorov, E. N., 1951, Some forms of accumulative shores generated by longitudinal movement of sediment: Doklady AN/SSSR, v. 80, no. 5.
- 105. Emery, K. O., and Foster, J. F., 1948, Water tables in marine beaches: Jour. Marine Research, v. 7, p. 644-653.
- Grant, U. S., 1948, Effect of ground-water table on beach erosion: Geol. Soc. America Bull., v. 57, p. 1252.
- Grant, U. S., 1948, Influence of water table on beach aggredation and degradation: Jour. Marine Research, v. 7, p. 655-660.
- 108. Grant, U. S., and Shepard, F. P., 1937, Magnitude of some shore processes in southern California: Geol. Soc. America Proc., p. 239-240.
- 109. Grant, U. S., and Shepard, F. P., 1938, Short-period oscillations of southern California beaches and adjacent sea floor: Geol. Soc. America Proc., p. 84-85.

- Hoyle, J. W., and King, G. T., 1958, The origin and stability of beaches: Coastal Engineering, Proc. Sixth Conf., p. 281-301.
- Inman, D. L., 1950, Report on beach study in the vicinity of Magu Lagoon, California: U. S. Beach Erosion Board Tech. Memo. 14.
- 112. Inman, D. L., 1953, Beach and nearshore processes along the Southern California Coast: U. S. Beach Erosion Board, Submarine Geology Dept. No. 27, S.I.O. Ref. 53-35.
- 113. Inman, D. L. and Filloux, J., 1960, Beach cycles related to tide and local wind wave regime: Jour. Geology, v. 68, p. 225-231.
- 114. Inman, D. L., and Rusnak, R. A., 1956, Changes in sand level on the beach and shelf at La Jolla, California: U. S. Beach Erosion Board Tech, Memo. 82.
- 115. Isaacs, J. C., and Bascom, W. N., 1949, Water Table Elevations in some Pacific coast beaches: Am. Geophys. Union Trans., v. 30, p. 293-294.
- 116. Johnson, R., 1961, Wechselbeziehungen zwischen der Welle und dem Strandanahen Unterwasserhang: Veroffentlichungen Der Forschungsanstalt Fur Schiffahrt, Wasser-Und Grundbau, No. 9.
- 117. Johnson, J. W., 1949, Scale effects in hydraulic models involving wave motion: Am. Geophys. Union Trans., v. 30, p. 517-529.
- 118. Jones, J. H., 1948, Wave action on beaches: Univ. Calif., M. S. Thesis.
- Kerr, A. R., 1938, Littoral erosion and deposition of Santa Monica Bay: Univ. Calif., Los Angeles, M. S. Thesis, 49 p.
- 120. King, C. A. M., 1953, The relationship between wave incidence, wind direction and beach changes at Marsden Bay, County Durham: Inst. British Geog. Trans., v. 19, p. 13-23.
- Komudai, R., 1959, On the Marine geology of beach erosion: Japanese Hydrographic Office, Tokyo.
- 122. Kressner, B., 1928, Hydraulic experiments with models on the effect of currents and surf breakers upon a sandy sea beach: Bautechnik, v. 6.

- 123. Krumbein, W. C., 1938, Beach environment in Little Sister Bay, Wisconsin: Geol. Soc. America Bull., v. 49, p. 629-652.
- Krumbein, W. C., 1944, Shore processes and beach characteristics: U. S. Beach Erosion Board Tech, Memo. 3.
- 125. Lapsley, W. W., 1937, Sand movement and beach erosion: Univ. Calif., M. S. Thesis, 27 p.
- 126. Leontyev, O. K., 1954, Morphological analysis as one of the main methods in the study of dynamics of the seashore: Vestnik Moskovskogo Gos. Universiteta, No. 10.
- Lewy, H., 1946, Water waves on sloping beaches: Am. Math. Soc. Bull., v. 52, p. 737-775.
- 128. Longinov, V. V., 1954, Laws governing the development of pebbly beaches: Trudy Instituta Ckeanologii AN/SSSR, v. 10.
- 129. Longinov, V. V., 1954, Some problems as to methods in the study of dynamics of the shore zone: Trudy Instituta Okeanologii AN/SSSR, v. 19.
- 130. Longinov, V. V., 1956, The basis and problems of the study of the dynamics of seashores: Trudy Instituta Geografii AN/SSSR, v. 68.
- Martens, J. H. C., 1931, Beaches of Florida: Florida Geol. Survey 21st-22nd Ann. Rept., p. 67-119.
- Martens, J. H. C., 1938, Beaches: Recent Marine Sediments: Symposium, Am. Assoc. of Petroleum Geologists, p. 207-218.
- Martens, J. H. C., 1941, Characteristics of beaches suitable for motoring: Shore and Beach, v. 2, p. 122-124.
- 134. Mason, M. A., 1942, Related problems in shore processes and oceanography: Am. Geophys. Union Trans., v. 23, p. 325-327.
- 135. Medvedev, V. S., 1957, A brief outline of the dynamics and morphology of the west coast of the White Sea: Trudy Okeanogr. Komissii, v. 2.
- Meyer, R. D., 1936, A model study of wave action on beaches: Univ. Calif. M. S.

  Thesis
- 137. Miller, R. L., and Zeigler, J. M., 1958, A

- model relating dynamics and sediment pattern in equilibrium in the region of shoaling waves, breaker zone, and foreshore:

  Jour. of Geology, v. 66, p. 417-441.
- 138. Nichols, R. L., 1961, Characteristics of beaches formed in polar climates: IGY Glaciological Report No. 4.
- 139. Norrman, J. O., 1964, Lake Vättern, investigation on shore and bottom morphology: Meddelanden Fran Uppsala Universitets Geografiska Institution, Ser. A, Nr. 194
- 140. Patrick, D. A., 1953, Comparison of beach elevation at limits of backwash and uprush with U. S. Coast and Geodetic Survey tide predictions on several Pacific Coast beaches: Am. Geophys. Union Trans., v. 34, p. 337.
- Rector, R. L., 1954, Laboratory study of equilibrium profiles of beaches: U. S. Beach Erosion Board Tech. Memo. 41.
- Schupp, R. D., 1953, A study of the cobble beach cusps along Santa Monica Bay, California: Univ. Southern Calif., M.S. Thesis, 131 p.
- 143. Seed, H. B., 1951, Beach trafficability and stabilization: Manual of Amphibious Oceanography, Office of Naval Research, Washington, D. C.
- 144. Shaler, N. S., 1895, Beaches and tidal marshes of the Atlantic coast: Natl. Geog. Soc. Mono. No. 1, p. 137-168.
- Shepard, F. P., 1950, Beach cycles in southern California: U. S. Beach Erosion Board Tech. Memo. 20.
- 146. Shepard, F. P., and Grant, U. S., 1947, Wave erosion along the southern California coast: Geol. Soc. America Bull., v. 58, p. 919-926.
- Shepard, F. P., Inman, E. L., and Fisher,
   R. L., 1951, Marire beaches of the United
   States: Geol. Soc. America Bull., v. 62,
   p. 1477-1478.
- 148. Simmons, H. B., 1950, Contribution of hydraulic models to coastal sedimentation studies: Coastal Engineering, Proc. First Conf., p. 161-168.
- 149. Sitarz, J., 1960, Côtes africaines. Etude des profils d'équilibre de plages: Travaux du Centre d'Études et de Recherches Océano-

- graphiques, v. 3, p. 43-62.
- 150. Steers, J. A., 1957, How are beaches supplied with shingle?: Coastal Engineering, Proc. Sixth Conf., p. 302-313.
- 151. Stetson, H. C., 1954, A preliminary investigation of shifting beach profiles: Coastal Geography Conference, Sponsored by the Office of Naval Research and the NRC Committee on Geography, p. 57.
- 152. Sweeting, M. M., 1943, Wave trough experiments on beach profiles: Geog. Jour., v. 101, p. 163-172.
- 153. Tanner, W. F., 1958, The equilibrium beach: Am. Geophys. Union Trans., v. 39, p. 889.
- 154. Tanner, W. F., 1959, Near-shore studies in sedimentation and morphology along Florida Panhandle Coast: Jour. Sed. Petrology, v. 29, p. 564-575.
- 155. Thompson, W. F., and Thompson, J. B., 1919, The spawning of the grunion: Calif. State Fish and Game Comm. Fish Bull. 3
- 156. Trask, P. D., 1955, Beaches near San Francisco, California: Berkeley, Calif., Eng. Foundation, Wave Research Lab., Series 14, Issue 21.
- 157. Trask, P. D., 1959, Beaches near San Francisco, California, 1956-1957: U.S. Beach Erosion Board Tech. Memo. 110.
- 158. Trask, P. D., and Rolston, J.W., 1950, Relation of shear strength of sediment to water content and grain size: Science, v. 3, p. 666-667.
- 159. Waters, C. H., 1939, Equilibrium slopes of sea beaches: Univ. Calif. M. S. Thesis, 71 p.
- 160. Watts, G. M., 1954, Laboratory study of effect of varying wave periods on beach profiles:
   U. S. Beach Erosion Board Tech. Memo. 53.
- Watts, G. M., and Dearduff, R. F., 1954,
   Effect of tidal action on wave formed beach
   profiles: U. S. Beach Erosion Board Tech.
   Memo. 83.
- 162. Wiegel, R. L., and Others, 1953, Waves, tides and beaches: Manual of Amphibious Oceanography, Officer of Naval Research, Washington, D. C.

- 163. Wiegel, R. L., Patrick, D. A., and Kimberly, H. L., 1954, Wave, longshore current, and beach profile records for Santa, Margarita River Beach, Oceanside, California: Am. Geophys. Union Trans., v. 35, p. 887-896.
- 164. Williams, W. W., 1947, The determination of gradients on enemy-held beaches: Geog. Jour. v. 109, p. 76-93.
- 165. Wood, H. A., 1951, Procedure in studying shore erosion: Canadian Geog., no. 1, pp. 31-37.
- 166. Woods Hole Oceanographic Institution, 1954, Beach studies in the Cape Cod area: Ref. No. 55-12, Periodic Status Report, Unpub. Report.
- 167. Woods Hole Oceanographic Institution, 1954, Beach studies in the Cape Cod area: Ref. No. 54-59, Periodic Status Report, Unpub. Report.
- 168. Yalin, M. S., 1963, A model shingle beach with permeability and drag forces reproduced: Inter. Assoc. Hydraulic Res. Congress, London, p. 169-175.
- 169. Zenkovitch, V. P., 1946, Dynamics and morphology of the seashores: Sea Transport, v. 4, The wave processes, 496 p.
- Zenkovitch, V. P., 1946, On the study of shore dynamics: Trudy, Inst. Okeanologii I, p. 99-112.
- 171. Zenkovich, V. P., 1957, New work in the field of the study of the dynamics of seashores: Meteorologiya I Gidrologiya, no. 10.
- 172. Zenkovitch, V. P., 1962, Some problems and methods of shore-dynamics investigations in the U.S.S.R.: De Ingenieur, Bouw- en Waterbouwkunde, v. 8, p. 95-107.
- 173. Ziegler, J. M., 1955, Beach studies in the Cape Cod area: Woods Hole Oceanographic Inst., Ref. No. 55-42, Periodic Status Report, Unpub. Report.
- 174. Ziegler, J. M., 1956, Beach studies in the Cape Cod area: Woods Hole Oceanographic Inst., Ref. No. 56-42, Periodic Status Report, Unpub. Report.

- 175. Ziegler, J. M., 1956, Beach studies in the Cape Galarea: Woods Hole Oceanographic Inst., Ref. No. 57-4, Periodic Status Report, Unpub. Report.
- 176. Ziegler, J. M., 1957, Beach studies in the Cape Cod area: Woods Hole Oceanographic
- Inst., Ref. No. 57-62, Periodic Status Report, Unpub. Report.
- 177. Ziegler, J. M., and Tuttle, S. D., 1961, Beach changes based on daily measurements of four Cape Cod beaches: Jour. of Geology, v. 69, p. 583-599.

#### I. B. 2. BEACH MORPHOLOGY, BEACH-FACE CONFIGURATION

- 178. Bascom, W. H., 1951, The relationship between sand size and beach face slope: Am. Geophys. Union Trans., v. 32, p. 866-874.
- 179. Beach Erosion Board, 1937, Relation of beach slope to sand characteristics: U. S. Beach Erosion Board, Unpub. Memo.
- 180. Boyé, M., 1954, Solution granulométrique au probléme des croissnats de plage: Rev. Geómorphol. dynam., v. 5, p. 241-273.
- 181. Branner, J. C., 1900, The origin of beach cusps: Jour. Geology, v. 8, p. 481-484.
- 182. Brown, C. V., 1937, Relationship of beach slopes to sand characteristics: U. S. Beach Erosion Board, Unpub. Report.
- 183. Evans, O. F., 1938, Classification and origin of beach cusps: Jour. Geology, v. 46, p. 615-627.
- 184. Evans, O. F., 1945, Further observations on the origin of beach cusps: Jour. Geology, v. 53, p. 403-404.
- 185. Evans, O. F., 1945, Scientific beachcombing: Scientific Monthly, v. 61, p. 245-248.
- 186. Guilcher, A., 1949, Observations sur les croissants de plage: Soc. géol. France Bull., v. 19, p. 15-30.
- Jefferson, M. S. W., 1899, Beach cusps: Jour. Geology, v. 8, p. 237-246.
- Johnson, D. W., 1910, Beach cusps: Geol. Soc. America Bull., v. 21, p. 599-624.
- 189. Kemp, P. H., 1960, The relationship between

- wave action and beach profile characteristics: Coastal Engineering, Proc. Seventh Conf., p. 262-277.
- Kuenen, Ph. H., 1948, The formation of beach cusps: Jour. Geology, v. 56, p. 34-40.
- 191. Lewis, W. V., 1931, The effect of wave incidence on the configuration of a shingle beach: Geog. Jour., v. 78, p. 129-148.
- 192. Longinov, V. V., and Pasechnik, L. D., 1953, The principal laws governing the development of the profile of pebbly beaches: Trudy Instituta Okeanologii AN/SSSR, v. 7.
- 193. Longuet-Higgins, M. S., and Parkin, D. W., 1962, Sea waves and beach cusps: Geog. Jour., v. 128, p. 194-201.
- 194. Riviere, A., and Vernhet, S., 1953, Sur la formation des croissants de plage et les mouvement de sédiments dan le profil: C. R. Ac. Sc., v. 237, p. 659-661.
- 195. Rosalsky, M. B., 1949, A study of minor beach features at Fire Island, Long Island, New York: New York Acad. Sci.: Trans., v. 12, p. 9-16.
- 196. Shepard, F. P., 1935, Gravel cusps on the California coast related to tides: Science, v. 82, p. 251-253.
- 197. Shepard, F. P., 1938, Beach cusps and tides, a discussion: Am. Jour. Sci., v. 35, p. 309-310.
- 198. Smith, D. and Dolan, R., 1960, Erosional development of beach cusps along the outer banks of North Carolina: Geol. Soc. America Bull., v. 71, p. 1979.

#### I, B, 3. BEACH MORPHOLOGY, NEARSHORE BOTTOM CONFIGURATION

- 199. Beach Erosion Board, 1948, An experimental study of submarine sand bars: U. S. Beach Erosion Board Tech. Rept. 3.
- Blanton, S. L., Jr., 1951, Origin of offshore bars: Geol. Soc. America Bull., v. 62, p. 1424.

- Eagleson, P. S., Glenne, B., and Dracup, J.A., 1945, Equilibrium characteristics of sand beaches in the offshore zone: U. S. Beach Erosion Board, Tech. Memo. 126.
- Egorov, E. N., 1951, Observations relative to the dynamics of sand reefs: Trudy Instituta Okeanologii AN/SSSR, v. 6.
- 203. Egorov, E. N., 1954, Some characteristics of the heavy sea and wave currents within the zone of submarine reefs: Trudy Instituta Okeanologii AN/SSSR, v. 8.
- 204. Evans, O. F., 1940, The low and ball of the eastern shore of Lake Michigan: Jour. Geology, v. 48, p. 476-511.
- 205. Inman, D. L., 1950, Submarine topography and sedimentation in the vicinity of Magu Submarine Canyon, California: U. S. Beach Erosion Board Tech. Memo. 19.
- 206. Keulegan, G. H., 1944, An experimental study of submarine sand bars: U. S. Beach Erosion Board Tech. Memo. 3.
- Keulegan, G. H., 1945, Depths of offshore bars:
   U. S. Beach Erosion Board Tech. Memo. 8.
- 208. Keulegan, G. H., and Krumbein, W. C., 1949, Stable configuration of bottom slope in a shallow sea and its bearing on geological

- processes: Am. Geophys. Union Trans., v. 30, p. 855-861.
- 209. King, C. A. M., and Williams, W. W., 1949,
  The formation and movement of sand bars
  by wave action: Geog. Jour., v. 103,
  p. 70-85.
- 210. McKee, E. D., and Street, T. S., 1961, Laboratory experiments on form and structure of longshore bars and beaches: Geometry of Sandstone Bodies, The Am. Assoc. Petroleum Geologists.
- 211. Munk, W. H., and Traylor, M. A., 1947, Refraction of ocean waves: a process linking underwater topography to beach erosion: Jour. Geology, v. 55, p. 1-26.
- Nichols, R. L., 1948, Flying bars: Am. Jour. Sci., v. 246, p. 96-100.
- 213. Shepard, F. P., 1942, Further discussion of the term "low and ball": Jour. Geology, v. 50, p. 216-217.
- 214. Shepard, F. P., 1950, Longshore bars and longshore troughs: U. S. Beach Erosion Board Tech. Memo. 15.
- 215. Waterways Experiment Station, 1939, Model study of an outer bar: Hydrol. Ser. Bull., v. 2.

#### I. B. 4. BEACH MORPHOLOGY, PRIMARY STRUCTURES AND MINOR FEATURES

- 216. Allen, J., 1951, Tidal sand ripples, Dock & Harbour Auth., v. 31, p. 348.
- 217. Atwood, W. G., and Johnson, A. A., 1924, Marine structures, their deterioration and preservation: Rept. Comm. on Marine Piling Inv., Div. of Eng. and Indus. Res., Natl. Res. Coun., Washington, D. C., 534p.
- Ayrton, H., 1910, The origin and growth of ripple marks: Royal Soc., London, Philos. Trans., v. 84, p. 285-310.
- 219. Brown, A. P., 1912, The formation of ripple-marks, tracks, and trails: Natl. Acad. Sci. Proc., v. 63, p. 536-547.
- 220. Bucher, W. H., 1919, On ripples and related sedimentary surface forms and their paleogeographic interpretation: Am. Jour. Sci., v. 47, p. 181.
- 221. Cornish, V., 1900, On tidal sand ripples above

- low water mark: Rept. British Assoc., p. 733-734.
- 222. Dapples, E. C., 1942, The effect of macro-organisms upon near-shore marine sediments: Jour. Sed. Petrology, v. 12, p. 118-126.
- 223. Darwin, G. H., 1883, On the formation of ripple mark in sand: Royal Soc. London Proc., v. 36, p. 18-43.
- 224. Demarest, D. F., 1947, Rhomboid ripple marks and their relationships to beach slope: Jour. Sed. Petrology, v. 17, p. 18-22.
- 225. Emery, K. O., 1944, Beach markings made by sand hoppers: Jour. Sed. Petrology, v. 14, p. 26-28.
- Emery, K. O., 1945, Entrapment of air in beach sand: Jour. Sed. Petrology, v. 15, p. 39-49.

- Emery, K. O., and Gale, J. F., 1951, Swash and swash mark: Am. Geophys. Union, Trans., v. 32, p. 31-36.
- Emery, K. O., and Hoggin, D., 1958, Gases in marine sediments: Am. Assoc. Petroleum Geologists, v. 42, p. 2174-2188.
- 229. Emery, K. O., and Stevenson, R. E., 1950, Laminated beach sand: Jour. Sed. Petrology, v. 20, p. 220-223.
- Evans, O. F., 1929, Old beach markings in the western Wichita mountains: Jour. Geology, v. 37, p. 76-82.
- Evans. O. F., 1938, Floating sand in the formation of swash marks: Jour. of Sed. Petrology, v. 8, p. 71.
- Evans, O. F., 1941, The classification of waveformed ripple marks: Jour. Sed. Petrology, v. 11, p. 37-41.
- 233. Evans, O. F., 1943, Effect of change of wave size on the size and shape of ripple marks: Jour. Sed. Petrology, v. 13, p. 35-39.
- 234. Evans. O. F., 1944, Some structural differences between wind-laid and water-laid deposits on the west shore of Lake Michigan: Jour. Sed. Petrology, v. 14, p. 96.
- 235. Evans, O. F., 1949, Ripple marks as an aid in determining depositional environment and rock sequence: Jour. Sed. Petrology, v. 19, p. 82-86.
- Fairchild, H. L., 1901, Beach structure in the Medina sandstone: American Geology, v. 28, p. 9-14.
- Gilbert, G. K., 1880, Ripple marks: Philos. Soc. Washington Bull., v. 2, p. 61-62.
- 238. Gilbert, G. K., 1899, Ripple marks and cross-bedding: Geol. Soc. America Bull., v. 10, p. 135-140.
- 239. Hoyt, J. H. and Henry, J. H., 1962, Sedimentation, structure, and development of migrating Barrier Islands: Prog. Rep., NSF Grant 16246: Marine Institute, Univ. Georgia.
- 240. Hoyt, J. H., and Henry, V. J., 1964, Development and geologic significance of soft beach sand: Sedimentology, v. 3, p. 44-51.

- Hunt, A. R., 1882, On the formation of ripple marks: Royal Soc. London Proc., v. 34, p. 1-19.
- Hunt, A. R., 1884, Description of oscillation ripple marks: Royal Soc. Dublin Proc., v. 4, p. 261-262.
- Inman, D. L., 1957, Wave-generated ripples in nearshore sands: U. S. Beach Erosion Board Tech. Memo. 100.
- 244. Jaggar, T. A., Jr., 1894, Some conditions for ripple mark: American Geology, v. 13, p. 199-201.
- Johnson, D. W., 1916, Contributions to the study of ripple marks: Jour. Geology, v. 24, p. 809-819.
- Keesling, S., 1953, Rhomboid beach markings: Univ. Southern Calif., Unpub. Sedimentation Rept., 10 p.
- Kindle, E. M., 1917, Recent and fossil ripple marks: Canadian Geol. Survey Misc. Bull., v. 25, p. 22.
- Kindle, E. M., 1936, Notes on shallow-water sand structures: Jour. Geology, v. 44, p. 861-869.
- 249. Kindle, E. M., and Bucker, W. H., 1936, Ripple mark and its interpretation: In "Treatise on Sediment", p. 632-668, Williams and Wilkins Co., Balitmore.
- 250. Kindle, E. M., and Edwards, E. M., 1924, Literature of ripple mark: Pan. American Geology, v. 41, p. 191-203.
- Krumbein, W. C., 1939, Preferred orientation of pebbles in sedimentary deposits: Jour. Geology, v. 47, p. 673-706.
- Kuenen, Ph. H., 1953, Significant features of graded bedding: Am. Assoc. Petroleum Geologists Bull., v. 37, p. 1044-1066.
- 253. Kuhlman, H., 1957, Investigations on grain sizes of sand from the coastal dunes and the beach: Geografisk Tidsskrift bd. 56, Kobenhavn.
- 254. Liu, H., 1957, Mechanics of sediment ripple formation: Am. Soc. Civil Engineers Proc., Hydraulics Div., Paper 1197, p. 23.
- 255. McKee, E. D., 1938, Structure in modern sedi-

- ments aid in interpreting ancient rocks: Carnegie Institute Washington Publications, v. 591, p. 683-694.
- 256. McKee, E. D., 1957, Flume experiments on the production of stratification and crossstratification: Jour. Sed. Petrology, v. 27, p. 129-134.
- 257. McKee, E. D., 1957, Primary structures in some recent sediments: Am. Assoc. Petroleum Geologist Bull., v. 41, p. 1704-1747.
- 258. McKee, E. D., and Weir, G. W., 1953, Terminology for stratification and cross-stratification in sedimentary rocks: Geol. Soc. America, v. 64, p. 381-389.
- Menard, H. W., 1950, Current-ripple profiles and their development: Jour. Geology, v. 58, p. 152-153.
- 260. Moore, D. G., 1951, Rhomboid ripple marks and their relationship to beach characteristics: Univ. Southern Calif., Unpub. Marine Geology Rept., 16 p.
- 261. Scholl, D. W., 1958, Effects of an arenaceous tube-building polychaete upon the sorting of a beach sand at Abalone Cove, California: Compass, v. 35, p. 276-283.
- Tanner, W. F., 1959, Shallow water ripple mark varieties: Jour. Sed. Petrology, v. 30, p. 481-485.
- 263. Tanner, W. F., 1962, Bed roughness effects: meandering, braiding, rippling: Geol. Soc. America Proc., Southeastern Section, p. 27.
- 264. Tanner, W. F., and Waskom, J. D., 1962, Mechanical model for ripple-mark studies: Geol. Soc. America Proc., Southeastern Section, p. 27.

- 265. Thompson, W. O., 1933, Observations on the stratification of beach deposits: Geol. Soc. America Bull. Proc., v. 44, p. 171.
- Thompson, W. O., 1934, Original structures of beaches: Stanford Univ., Ph.D. Thesis, 227 p.
- Thompson, W. O., 1937, Original structures of beaches, bars, and dunes: Geol. Soc. America Bull., v. 48, p. 723-751.
- Tinny, E. R., 1958, Discussion of Liu, 1957, Mechanics of sediment ripple formation: Am. Soc. Civil Engineers Proc., Hydralics Div., v. 84., p. 1558.
- Trefethen, J. M., and Dow, R. L., 1960, Some features of modern beach sediments: Jour. Sed. Petrology, v. 30, p. 589-602.
- Van Straaten, L. M. J. U., 1950, Periodic patterns of rippled and smooth areas on water surfaces induced by wave action:
   K. Ned. Akad. Wet. Proc., v. 53, p. 1217–1227.
- Van Straaten, L. M. J. U., 1951, Longitudinal ripple marks in mud and sand: Jour. Sed. Petrology, v. 21, p. 47-54.
- 272. Van Straaten, L. M. J. U., 1953, Rhythmic patterns on Dutch North Sea beaches: Overdruk uit Geologie en Mijnbouw, Nw. Serie, Nr. 2, 15e Jaargang, p. 31-43.
- 273. Vanoni, V. A., and Brooks, N. H., 1958, Discussion of Liu (1957), Mechanics of sediment ripple formation: Am. Soc. Civil Engineers Proc., Hydraulics Div., v. 84, p. 1558-17-1558-31.
- 274. Woodford, A. O., 1935, Rhomboid ripple marks: Am. Jour. Sci., v. 29, p. 518-525.

### I.C.1. MEASUREMENT TECHNIQUES, BEACH (SUB-AERIAL)

- Beach Erosion Board, 1947, Hydrographic Survey operations of field research group: U. S.
   Beach Erosion Board Bull., v. 1, p. 1-5.
- 276. Beach Erosion Board, 1947, Test of aerial photogrammetry in making beach surveys: U. S. Beach Erosion Board Bull., v. 1, p. 1-5.
- 277. Coleman, C. G., 1948, Photographic interpretation of coasts and beaches: Photogram.

- Eng., v. 14, p. 463-472.
- Dietz, R. S., 1947, Aerial photographs in the geological study of shore features and processes: Photogram. Eng., v. 13, p. 537-545.
- 279. Kunzler, R. H., 1962, Time-lapse photography of minor beach structures: Geol. Soc. America Proc., Southeastern Section, p. 22.

- 280. Le Fur, A., 1950, Sur la Détermination du gradient des plages par examen del la houle sur les photographies aériennes: C.O.E.C. Bull., v. 2, p. 125-138.
- 281. McCurdy, P. G., 1947, Manual of coastal delineation from aerial photographs: H.O. Pub. No. 592, Washington, D. C.
- 282. Shepard, F. P., 1950, Photography related to investigation of shore processes: Symposium of information relative to uses of aerial photographs by geologists, Photogrammetric Eng., v. 16, p. 756-769.
- 283. Swarbrick, E. E., 1964, A peel technique for

- the study of sedimentary structures: Sedimentology, v. 3, p. 75-78.
- 284. Williams, W. W., 1947, The determination of gradients on enemy-held beaches: Geog. Jour., v. 109, p. 76-93.
- 285. Ziegler, J. M., and Ronne, F. C., 1957, Time lapse photography - an aid to the studies of shorelines: Research Review, Office of Naval Research, April, p. 1-6.
- 286. Ziegler, J. M., and Ronne, F. C., 1958, Coastline photographs: Industrial photography, p. 40-41.

# I.C.2. MEASUREMENT TECHNIQUES, NEARSHORE (SUBMARINE)

- Barnes, H., 1955, Underwater television and research in marine biology, bottom topography and geology: Dtsch. hydrogr. A. 8, p. 213-236.
- 288. Beach Erosion Board, 1947, Comparison of leadline and echo sounding results using amphibious trucks: U. S. Beach Erosion Board Bull., v. 1, p. 5-8.
- Beach Erosion Board, 1947, Notes on comparisons of echo sounders: U. S. Beach Erosion Board Bull., v. 1, p. 3-10.
- Beach Erosion Board, 1948, Review of shallow water survey methods: U. S. Beach Erosion Board Bull., v. 2, p. 8-12.
- 291. Chesterman, W. D., Clynick, P. R., and Stride, A. H., 1958, An acoustic aid to sea bed survey: Acustica, v. 8, p. 285-290.
- 292. Egorov, E. N., and Popov, V. A., 1958, A cable railway installed for the purpose of studying the transportation of sediments: Trudy Instituta Okeanologii AN/SSSR, v. 28.
- Fairchild, J. C., 1956, Development of a suspended sediment sampler for laboratory use under wave action: U. S. Beach Erosion Board Bull., v. 10, p. 41-60.
- 294. Forster, G. R., 1954, Preliminary note on a survey of Stoke Point Rocks, with selfcontained diving apparatus: Jour. Marine Biol. Assoc., p. 341.
- Hersey, J. B., 1952, Acoustic instrumentation as a tool in oceanography: Oceanographic

- Instrumentation, p. 101-122.
- 296. Holme, N. A., 1955, An improved "vacuum" grab for sampling the sea floor: Jour. Marine Biol. Assoc., p. 545-551.
- Hough, J. L., 1938, Bottom-sampling apparatus: Recent Marine Sediment, A Symposium, Am. Assoc. of Petroleum Geologists, p. 631-664.
- 298. Isaacs, J. D., 1945, A device for traversing the surf zone of ocean beaches: Berkeley, Calif., Eng. Foundation, Fluid Mech. Lab., Rept. 90.
- 299. Isaacs, J. D., 1945, Report on beach survey with sea sled and mast at Pismo, California: Berkeley, Calif., Eng. Foundation, Fluid Mech. Lab., Rept. HE-116-135.
- Isaacs, J. D., and Iselin, C. O'D., 1952, Oceanographic instrumentation: Division of Physical Sciences, National Academy of Sciences, National Research Council.
- Kidson, C., Steers, J. A., and Flemming, N. C. 1962, A trial of the potential value of aqualung diving to coastal physiography on British coasts: Geog. Jour., v. 128, p. 49-53.
- 302. Lafond, E. C., Dietz, R. S., and Knauss, J.A., 1950, A sonic device for underwater sediment survey: Jour. Sed. Petrology, v. 20, p. 107-110.
- 303. Saville, T., Jr., and Caldwell, J. M., 1952, Accuracy of hydrographic surveying in and

- near the surf zone: Coastal Engineering, Proc. Fluid Conf., p. 31-47. Also, U. S. Beach Erosion Board Tech. Memo. 32, 1953.
- 304. Silverman, M., and Whaley, R. C., 1952, Adaptation of the piston coring device to shallow water sampling: Jour. Sed. Petrology, v. 22, p. 11-16.
- 305. Watts, G. M., 1953, Development and field tests of a sampler for suspended sediment in wave action: U. S. Beach Erosion Board Tech. Memo. 34.
- 306. Watts, G. M., 1954, Laboratory and field tests of sounding leads: U. S. Beach Erosion [ Board Tech. Memo. 54.

#### I.D.1.a. SEDIMENT CHARACTERISTICS, GENERAL

- 307. Baldwin, E. J., 1956, Distribution of rocks derived from a point source on a marine beach: Univ. Southern Calif., unpub. sedimentation rept., 5 p.
- Beach Erosion Board, 1942, Abrasion of beach sand: U. S. Beach Erosion Board Tech. Memo. 2.
- 309. Beal, M. A., and Shepard, F. P., 1956, A use of roundness to determine depositional environments: Jour. Sed. Petrology, v. 26, p. 49-60.
- Boos, M. F., 1940, Black beach sands of Guatemala, Central America: Geol. Soc. America Bull., v. 51, p. 1921.
- Bullard, F. M., 1942, Source of beach and river sands on Gulf Coast of Texas: Geol. Soc. America Bull., v. 53, p. 1021-1044.
- 312. Bullard, F. M., and Mills, R. A., 1951, Beach sand at Los Ojos de Agua de San Telmo, Michoácan, Mexico: Jour. Sed. Petrology, v. 21, p. 195-199.
- 313. Clarke, J. W., 1958, Certain conditions of concentration of heavy minerals in littoral marine deposits: So. Carolina Div. of Geology, State Development Board Bull., v. 2, p. 37-39.
- 314. Clements, T., and Dana, S. W., 1944, Geologic significance of a coarse marine sediment from near Santa Catalina Island, California: Jour. Geology, v. 52, p. 351-354
- 315. Darrow, W. E., 1942, The hydrolic aspects of beach material supply, with specific reference to the shoreline at Long Beach, California: Am. Geophys. Union Trans., 23rd Ann. Mtg., p. 644-649.
- 316. Durietz, T., 1953, Composition of beach sand

- along the Swedish E. Coast: Geologiska föreningens i Stockholm förhandlingar, v. 75, p. 381-395.
- 317. Einstein, H. A., 1951, Estimating quantities of sediment supplied by streams to a coast:

  Coastal Engineering, Proc. First Conf.,
  p. 137-139.
- 318. Emery, K. O., 1955, Grain size of marine beach gravels: Jour. Geology, v. 63, p. 39-49.
- Emery, K. O., 1955, Some characteristics of southern California sediments: Jour. Sed. Petrology, v. 24, p. 50-59.
- 320. Folk, R. L., and Ward, W. C., 1957, Brazos river bar: a study in the significance of grain size parameters: Jour. Sed. Petrology, v. 27, p. 3-26.
- 321. Foxworth, R. D., 1958, Heavy minerals of sand from recent beaches of the Gulf Coast of Mississippi and associated islands: Univ. of Missouri, M.S. Thesis.
- 322. Friedman, G. M., 1962, On sorting, sorting coefficients, and the lognormalty of the grain-size distribution of sandstone: Jour. of Geology, v. 70, p. 737-753.
- 323. Glossop, R., and Skempton, A. W., 1945, Particle-size in silts and sands: Jour. Inst. Civil Engineering, v. 25, p. 81-105.
- 324. Gorsline, D. S., 1959, Sources and parameters of bottom sediments of the continental terrace off the southeastern United States:
  International Oceanographic Congress,
  New York, p. 615.
- 325. Griffiths, J. C., 1951, Size versus sorting in some Caribbean sediments: Jour. of Geology, v. 59, p. 211-243.

- 326. Handin, J. W., 1951, The source, transportation and deposition of beach sediment in southern California: U. S. Beach Erosion Board Tech. Memo. 22.
- 327. Hantzschel, W., 1938, Tidal flat deposits (wattenschlick): Recent Marine Sediments, A Symposium, Am. Assoc. of Petroleum Geologists, p. 195-206.
- 329. Hsu, K. J., 1960, Texture and mineralogy of the recent sands of the Gulf Coast: Jour. Sed. Petrology, v. 30, p. 380-403.
- 330. Inman, D. L., 1953, Areal and seasonal variations in beach and nearshore sediments at La Jolla, California: U. S. Beach Erosion Board Tech. Memo. 39.
- 331. Inman, D. L., and Chamberlin, T. K., 1955, Particle size distribution in nearshore sediments: Soc. Econ. Paleontologists and Minerologists Spec. Bull., No. 3, p. 106-127.
- 332. Johnson, J. W., and Asce, M., 1959, The supply and loss of sand to the coast: Am. Soc. Civil Engineers Proc., Jour. Waterways and Harbors Div., v. 85, p. 227-251.
- 333. Keller, G. H., 1953, Distribution of brown sand off the coast of California and Baja California: Univ. Southern Calif., unpub. marine geology rept., 19 p.
- 334. Keller, W. D., 1945, Size distribution of sand in some dunes, beaches and sandstones: Am. Assoc. Petroleum Geologists, v. 29, p. 215-221.
- Kindle, E. M., 1936, Dominant factors in the formation of firm and soft sand beaches: Jour. Sed. Petrology, v. 6, p. 16-22.
- 336. Koelzer, V. A., and Lara, J. M., 1958, Densities and compaction rates of deposited sediment: Am. Soc. Civil Engineers Proc., Jour. Hydraulics Div., Paper 1603, p. 15.
- Kofoed, J. W. and Gorsline, D. S., 1963,
   Sedimentary environments in Apalachicola
   Bay and vicinity, Florida: Jour. Sed.
   Petrology, v. 33, p. 205-223.
- 338. Krumbein, W. C., 1938, Local areal variation of beach sands: Geol. Soc. America Bull., v. 49, p. 653-658.
- 339. Krumbein, W. C., 1942, Physical and chemi-

- cal changes in sediments after deposition: Jour. Sed. Petrology, v. 12, p. 111-117.
- 340. Krumbein, W. C., 1943, Fundamental attributes of sedimentary particles: Studies in Engineering, Proc. Second Hydr. Conf., Univ. Iowa, Buil. 27, p. 318-331.
- Kuenen, Ph. H., 1960, Sand: Scientific American, v. 202, p. 94-106.
- 342. Kuenen, Ph. H., 1964, Experimental abrasion:6. Surf action: Sedimentology, v. 3, p. 29-43.
- Landon, R. E., 1930, An analysis of beach pebble abrasion and transportation: Jour. Geology, v. 38, p. 437-446.
- 344. McKee, E. D., 1959, Storm sediments on a Pacific atoll: Jour. Sed. Petrology, v. 29, p. 354-364.
- MacCarthy, G. R., 1931, Coastal sands of the eastern United States: Am. Jour. Sci., v. 22, p. 35-50
- MacCarthy, G. R., 1933, Calcium carbonate in beach sands: Jour. Sed. Petrology, v. 3, p. 64-67.
- MacCarthy, G. R., 1933, The rounding of beach sands: Am. Jour. Sci., v. 25, p. 205-224.
- 348. Marshall, P., 1927, The wearing of beach gravels: New Zealand Inst. Trans., v. 58, p. 507-532.
- 349. Marshall, P., 1929, Beach gravels and sands: New Zealand Inst. Trans., v. 60, p. 324-
- 350. Martens, J. H. C., 1935, Beach sands between Charleston, South Carolina, and Miami, Florida: Geol. Soc. America Bull., v. 46, p. 1563-1596.
- 351. Mason, C. C., and Folk, R. L., 1958, Differrentiation of beach, dune, and aeolian flat environments by size analysis, Mustang Island, Texas: Jour. Sed. Petrology, v. 28, p. 211-226.
- Nasu, N., 1956, Particle size distribution in the vicinity of Sagami River mouth: Jour. Faculty Science, Univ. Tokyo, v. 10, p. 65-108.

- Pettijohn, F. J., 1931, Petrography of the beach sands of southern Lake Michigan: Jour. Geology, v. 39, p. 432-455.
- Pettijohn, F. J., 1932, A textural variation series of beach sands from Cedar Point, Ohio: Jour. Sed. Petrology, v. 2, p. 76-88.
- 355. Pettijohn, F. J., and Lundahl, A. C., 1943, Shape and roundness of Lake Erie Beach sands: Jour. Sed. Petrology, v. 13, p. 69-78.
- Pettijohn, F. J., and Ridge, J. D., 1933, A mineral variation series of beach sands from Cedar Point, Ohio: Jour. Sed. Petrology, v. 3, p. 92-94.
- Powers, M. C., and Kinsman, B., 1953, Shell accumulations in underwater sediments and their relation to the thickness of the traction zone: Jour. Sed. Petrology, v. 23, p. 229-234.
- 358. Powers, W. E., 1954, Source materials for Lake Michigan beaches: Coastal Engineering, Proc. Fourth Conf., p. 101-106.
- 359. Rabinovitz, D., 1958, Directional permeability and dimensional orientation of beach sands: Univ. Southern Calif., unpubl. sedimentation rept., 8 p.
- Raymond, P. E., and Statson, H. C., 1932, A calcareous beach at John O'Groats, Scotland: Jour. Sed. Petrology, v. 2, p. 63-67.
- Raymond, P. E., and Stetson, H. C., 1932, A calcareous beach on the coast of Maine: Jour. Sed. Petrology, v. 2, p. 51-62.
- Reed, R. D., 1930, Recent sands of California: Jour. Geology, v. 38, p. 223-245.
- 363. Rogers, J. J. W., and Adams, H. C., Jr., 1959, The mineralogy and texture of beach sands of Galveston Island, Texas: Jour. Sed. Petrology, v. 29, p. 207-211.
- Rusnak, G. A., 1954, Some remarks on the accumulation of shells in sediments: Jour. Sed. Petrology, v. 24, p. 283-285.
- Schalk, M., 1946, A study of textural changes in a beach by repeated sampling: Jour. Sed. Petrology, v. 16, p. 43-51.
- 366. Shepard, F. P., and MacDonald, G. A., 1938, Sediments of Santa Monica Bay, California:

- Am. Assoc. Petroleum Geologists Bull., v. 22, p. 201-216.
- Shepard, F. P., and Moore, D. G., 1954, Sedimentary environments differentiated by coarse-fraction studies: Am. Assoc. Petroleum Geologists Bull., v. 38, p. 1792-1802.
- Shepard, F. P., and Wrath, W. F., 1937,
   Marine sediments around Catalina Island:
   Jour. Sed. Petrology, v. 7, p. 41-50.
- 369. Shepard, F. P., and Young, R., 1961, Distinguishing between beach and dune sands: Jour. Sed. Petrology, v. 31, p. 196-214.
- 370. Trask, P. D., 1952, Source of beach sand at Santa Barbara, California as indicated by mineral grain studies: U. S. Beach Erosion Board Tech. Memo. 28.
- 371. Trask, P. D., 1959, Mechanical analysis of beaches near San Francisco, California: Berkeley, Calif., Eng. Foundation, Wave Research Lab., Series 14, Issue 21.
- 372. Trask, P. D., and Johnson, J. W., 1955, Sand variation at Point Reyes Beach, California:
   U. S. Beach Erosion Board Tech. Memo. 65.
- 373. Twenhofel, W. H., 1943, Origin of the black sands of the coast of southwest Oregon:
   Oregon Dept. Geology and Mineral Industries Bull. 24, p. 1-25.
- 374. Twenhofel, W. H., 1945, The rounding of sand grains: Jour. Sed. Petrology, v. 15, p. 59-71.
- 375. Twenhofel, W. H., 1946, Beach and river sands of the coastal region of southwest Oregon with particular reference to black sands: Am. Jour. Sci., v. 244, p. 114-139.
- Tyler, S. A., 1934, Study of sediment from North Carolina and Florida coasts: Jour. of Sed. Petrology, v. 4, p. 3-11.
- Udden, J. A., 1914, Mechanical composition of clastic seciments: Geol. Soc. America Bull., v. 25, p. 655-744.
- 378. West, P. J., 1950, Preferred orientation of beach pebbles: Univ. Southern Calif., unpub. sedimentation rept., 24 p.

379. Wimberley, C. S., 1955, Marine sediments north of Scripps Submarine Canyon, La

Jolla, California: Jour. Sed. Petrology, v. 25, p. 24.

# 1, D. 1. b. SEDIMENT CHARACTERISTICS, MEASUREMENTS

- Briggs, R. D., 1950, Mechanical analysis of a gravel beach: Univ. Southern Calif., unpubl. sedimentation rept., 8 p.
- 381. Bryson, D. K., 1956, The measurement of directional permeability of some beach sand: Univ. Southern Calif., unpubl. sedimentation rept., 13 p.
- Curry, J. R., 1956, Dimensional grain orientation studies of recent coastal sands: Am.
   Assoc. Petroleum Geologists Bull., v. 40, p. 2440-2456.
- 383. Curry, J. R., and Griffiths, J. C., 1955, Sphericity and roundness of quartz grains in sediments: Geol. Soc. America Bull., v. 66 p. 1075-1096.
- Doeglas, D. J., 1946, Interpretation of the results of mechanical analyses: Jour. Sed. Petrology, v. 16, p. 19-40.
- Emery, K. O., 1938, Rapid method mechanical analysis of sand: Jour. Sed. Petrology, v. 8, p. 105-111.
- 386. Friedman, G. M., 1958, Determination of sieve-size distribution from thin section data for sedimentary petrological studies: Jour. Geology, v. 66, p. 394-416.
- Griffiths, J. C., 1952, Grain size distribution and reservoir rock characteristics: Am. Assoc. Petroleum Geologists Bull., v. 36, p. 205-229.
- 388. Griffiths, J. C., 1953, Estimation of error in grain size analysis: Jour. Sed. Petrology, v. 23, p. 75-84.
- 389. Griffiths, J. C., 1960, Modal analysis of sediments: Revue de geographic physique et de geologic dynamique, v. 3, p. 29-48.
- 390. Griffiths, J. C., 1961, Measurement of the properties of sediments: Jour. Geology, v. 69, p. 487-498.
- 391. Griffiths, J. C., and Rosenfeld, M. A., 1950, Progress in measurement of grain orientation in Bradford sand: Pennsylvania State

- Univ., Mineral Indus. Expt. Sta. Bull. 56, p. 202-236.
- 392. Gripenberg, S., 1938, Mechanical analysis: Recent Marine Sediment, A Symposium, Am. Assoc. of Petroleum Geologists, p. 532-557.
- 393. Inman, D. L., 1952, Measures for describing the size distribution of sediments: Jour, Sed. Petrology, v. 22, p. 125-145.
- 394. Krumbein, W. C., 1934, Size frequency distribution of sediments: Jour. Sed. Petrology, v. 4, p. 65-77.
- 395. Krumbein, W. C., 1936, Application of logarithmic moments to size frequency distributions of sediments: Jour. Sed. Petrology, v. 6, p. 35-47.
- 396. Krumbein, W. C., 1936, The use of quartile measures in describing and comparing sediments: Am. Jour. Sci., v. 32, p. 98-111.
- Krumbein, W. C., 1938, Graphic presentation and statistical analysis of sedimentary data: Recent Marine Sediment, A Symposium, Am. Assoc. of Petroleum Geologists, p. 558-591.
- 398. Krumbein, W. C., 1941, Measurement and geological significance of shape and roundness of sedimentary particles: Jour. Sed. Petrology, v. 11, p. 64-72.
- 399. Krumbein, W. C., and Monk, G. D., 1942,
  Permeability as a function of the size
  parameters of unconsolidated sands: Am.
  Inst. Mining Engineers Trans., v. 152,
  p. 153-163.
- 400. Lane, E. W., 1947, Sediment terminology: Am. Geophys. Union Trans., v. 28, p. 936-938.
- Lees, G., 1964, A new method for determining the angularity of particles: Sedimentology, v. 3, p. 2-21.
- 402. Leggett, R. F., Peckover, F. L., Wilson, W. T., Lane, E. W., and Brown, C. B.,

- 1949, Report of Sub-Committee on sediment terminology. Am. Geophys. Union Trans., v. 30, p. 134-140.
- 403. McCammon, R. B., 1962, Efficiencies of percentile measures for describing the mean size and sorting of sedimentary particles: Jour. Geology, v. 70, p. 453-465.
- 404. McCammon, R. B., 1962, Geological notes: Moment measures and the shape of size frequency distributions: Jour. Geology, v. 70, p. 89-92.
- Otto, G. H., 1939, A modified logarithmic probability graph for the interpretation of mechanical analysis of sediments: Jour. Sed. Petrology, v. 9, p. 62-76.
- 406. Pettijohn, F. J., 1938, Mineral analysis of sediments: Recent Marine Sediment, A Symposium, Am. Assoc. of Petroleum Geologists, p. 592-615.
- Poole, D. M., Butcher, W. S., and Fisher,
   F. L., 1951, The use and accuracy of the
   Emery settling tube for sand analysis: U.S.
   Beach Erosion Board Tech. Memo, 23.
- 408. Powers, M. C., 1953, A new roundness scale for sedimentary particles: Jour. Sed. Petrology, v. 23, p. 117-119.
- Rittenhouse, G., 1943, A visual method of estimating two dimensional sphericity: Jour. Sed. Petrology, v. 13, p. 79-81.
- 410. Rogers, C. A., 1958, The packing of equal

- spheres: London Math. Soc. Proc., v. 8, p. 609-620.
- Romanovsky, V., 1948, Recherches sur les propietes physiques des sediments: Institut Technique du Batiment, Paris, These Ing. Doct. 175, 32 p.
- 412. Sharp, W. E., and Fan, P., 1963, A sorting index: Jour. Geology, v. 71, p. 76-84.
- 413. Tanner, W. F., 1958, Comparison of phi percentile deviations: Jour. Sed. Petrology, v. 28, p. 203-204.
- 414. Threet, R. L., 1954, Sorting nomenclatural assortment: Jour. Sed. Petrology, v. 24, p. 159-161.
- 415. Twenhofel, W. H., 1938, General procedure in studies of recent sediments: Recent Marine Sediment, A Symposium, Am. Assoc. of Petroleum Geologists, p. 525-531.
- 416. Wadell, H., 1932, Volume, shape, and roundness of rock particles: Jour. Geology, v. 40, p. 443-451.
- Wadell, H., 1935, Volume, shape, and roundness of quartz particles: Jour. Geology, v. 43, p. 250-280.
- Wentworth, C. K., 1922, The shapes of beach pebbles: U. S. Geol. Survey Prof. Paper 131, p. 75-83.
- 419. Wentworth, C. K., 1926, Methods of mechanical analysis of sediments: The University of Iowa, 52 p.

### I.D. 1. c. SEDIMENT CHARASTERISTICS, SAMPLING

- Apfel, E. T., 1938, Phase sampling of sediments: Jour. Sed. Petrology, v. 8, p. 67-68.
- Krumbein, W. C., 1934, The probable error of sampling sediments for mechanical analysis: Am. Jour. Sci., v. 27, p. 204-214.
- 422. Krumbein, W. C., 1952, Statistical problems of sample size and spacing on Lake Michigan beaches: Coastal Engineering Proc. Third Conf., p. 147-162.
- Krumbein, W. C., 1953, Statistical designs for sampling beach sand: Am. Geophys. Union Trans., v. 34, p. 857-867.

- Krumbein, W. C., 1954, Statistical significance of beach sampling methods: U. S. Beach Erosion Board Tech. Memo. 50.
- Krumbein, W. C., and Slack, H. A., 1956,
   Relative efficiency of beach sampling methods:
   U. S. Beach Erosion Board Tech. Memo. 90.
- Kurk, E. H., 1941, The problem of sampling heterogeneous sediments: Univ. Chicago, M. A. Thesis.
- Otto, G. H., 1938, The sedimentation unit and its use in field sampling: Jour. of Geology, v. 46, p. 569-582.

- 428. Steinmetz, R., 1962, Sampling and size distribution of quartzose pebbles from three New Jersey gravels: Jour. Geology, v. 70, p. 56-73.
- 429. Waterways Experiment Station, 1950, Undisturbed sand sampling below the water table: W. E. S. Bull., Ser. 35.

#### I.D. 2. a. SEDIMENT TRANSPORT, GENERAL

- 430. American Society of Civil Engineers, Northwestern Section, 1953, A joint meeting of international association for hydraulics research and hydraulics division, American Society of Civil Engineers: Minnesota International Hydraulics Convention Proc.
- Arnborg, L., 1957, Erosion forms and processes on the bottom of the river Angermaniliven: Geografiska Annaler, Stockholm, Issue #34.
- 432, Arnborg, L., 1959, The lower Angermantilven, a study of fluvial morphology and processes: Geografiska institutionen vid Uppsala Universitet, Ser. A, No. 147.
- Bagnold, R. A., 1947, Model experiment with light materials: Jour. Inst. Civil Engineering, v. 4, p. 447.
- Bagnold, R. A., 1956, The flow of cohesionless grains in fluids: Royal Soc. London Trans., A., v. 249, p. 235-297.
- 435. Bascom, W. N., 1951, Investigation of coastal sand movements near Santa Barbara, California: Berkeley, Calif. Eng. Foundation, Ser. 14, Issue 8, pt. I, 38 p. Pt. II, 78 p.
- 436. Carter, A. C., 1950, Critical tractive forces which start movement of sediment in a channel: U. S. Dept. Interior Hydraulics Lab. Report, no. Hyd-296, p. 19.
- Chien, N., 1956, The present status of research on sediment transport: Am. Soc. Coastal Engineering Trans., v. 121, p. 833-868.
- Corps of Engineers, Measurements and analysis
  of sediment loads in streams: Rept. 8,
   St. Paul Dis, Hydraulic Lab.
- Corrsin, S., 1961, Turbulent flow: Am. Sci. v. 49, p. 300-325.
- 440. Dementiev, M. A., Knoroy, V. S., and
  Levi, J. J., 1960, The sediment transport
  investigation in the U.S.S.R.: Inter. Assoc.
  Hydraulic Research 8th Cong., Seminar No.
  II (Montreal), p. R3-SII-1 through R3-SII-19.

- Einstein, H. A., 1950, Estimating quantities of sediment supplied by streams to a coast: Coastal Engineering, Proc. First Conf., p. 137-139.
- Einstein, H. A., 1950, The bed-load function for sediment transportation in open channel flows: U. S. Dept. Agriculture, Tech. Bull. No. 10260.
- 443. Einstein, H. A., Anderson, A. G., and Johnson, J. W., 1940, A distinction between bed-load and suspended load in natural streams: Am. Geophys. Union Trans., v. 22, p. 628-633.
- 444. Einstein, H. A., and Chien, N., 1953, Transport of sediment mixtures with large ranges of grain sizes: Berkeley, Calif., Eng. Foundation, also,U. S. Corps of Engineers Mo. River Div., Sediment Ser. 2, p. 49.
- 445. Einstein, H. A., and Chien, N., 1955, Effects of heavy sediment concentration near the bed on velocity and sediment distribution: Berkeley Calif., Eng. Foundation, also, U. S. Corps of Engineers Mo. River Div., Sediment Ser. 8, p. 76.
- 446. Hjulström, F., 1935, Studies of the morphological activity of river as illustrated by the river Fyris: Geol. Inst. Univ. Uppsala Bull., Issue 25.
- 447. Hjulström, F., 1939, Transportation of detritus by moving water: Recent Marine Sediments, A Symposium, Am. Assoc. of Petroleum Geologists, p. 5-31.
- 448. Hough, S. S., 1896, On the influence of viscosity on waves and currents: London Math. Soc. Proc., v. 28, p. 264-288.
- Inman, D. L., 1949, Sorting of sediments in the light of fluid dynamics: Jour. of Sed. Petrology, v. 19, p. 51-70.
- Johnson, J. W., 1956, Dynamics of nearshore sediment movement: Am. Assoc. Petroleum Geologists, Bull., v. 40, p. 2111-2232.

- 451. Keulegan, G. H., 1950, Engineering Hydraulics: New York, John Wiley & Sons.
- 452. Krumbein, W. C., 1942, Settling velocity and flume behavior of non-spherical particles: Am. Geophy. Union Trans., v. 23, p. 621-633.
- 453. Kuenen, Ph. H., 1959, Transport and sources of marine sediments: Geol. en Mijnboew, v. 21, p. 191-196.
- 454. Kumin, D. D., 1954, The influence of velocity pulsation on the erosion potential of the current: Evestiya Vsesojusnogo N.-I., Instituta Gidrotechniki, no. 52.
- 455. Kunkel, W. B., 1948, Magnitude and character of errors produced by shape factors in Stokes' law estimates of particle radius: Jour. Appl. Physics., v. 19, p. 1056-1058.
- 456. Lane, W. E., 1951, Recent progress in the United States in the study of properties and movement of sediment: Proces-Verbeaux, Assn. of Hydrology, Intn'l Union Geodesy and Geophysics 8th Gen. Assembly, v. 1, p. 253-262.
- 457. Laursen, E. M., 1957, The total sediment load of streams: Am. Soc. Civil Engineers Proc., Jour. Hydrol. Div., v. 84, no. Hy-1, p. 36.
- 458. Leopold, L. B., 1962, Rivers: American Scientist, v. 50, p. 511-537.
- 459. Lesser, R. M., 1951, Some observations of the velocity profile near the sea floor: Am. Geophys. Union Trans., v. 32, p. 207-211.
- Linn, C. C., 1945, On the stability of twodimensional parallel flows: Quart. Appl. Math., v. 3, p. 117-142.
- 461. Longinov., V. V., 1951, On the role of floor compensating currents during the movement of material on the shore-submergent slope: Izvestiya AN/SSSR, Seriya Geogis., no. 2.
- 462. McNown, J. S., Lee, H. M., McPherson, M.B., and Engez, S. M., 1950, Influence of boundary proximity on the drag of spheres: Applied Mechanics, Proc. Seventh Inst. Cong.
- 463. McNown, J. S., and Malaika, J., 1950, Effects of particle shape on settling velocity at low Reynolds numbers: Am. Geophys. Union

- Trans., v. 31, p. 73-82.
- Malaika, J., 1949, Effect of shape of particles on their settling velocity: Univ. Iowa, Ph.D. Dissertation.
- Menard, H. W., 1950, Sediment movement in relation to current velocity: Jour. of Sed. Petrology, v. 20, p. 148-160.
- Menard, H. W., 1950, Transportation of sediment by bubbles: Jour. Sed. Petrology, v. 20, p. 98-106.
- Menard, H. W., and Boucot, A. J., 1951,
   Experiments on movement of shells by
   water: Am. Jour. Sci., v. 249, p. 131-151.
- 468. Miller, R. L., and Zeigler, J. M., 1959, Comparison of theoretical near-bottom mass transport velocities with observed sediment size and sorting patterns: Internat. Oceanographic Conf., p. 635.
- 469. Mosby, H., 1947, Experiments on turbulence and friction near the bottom of the sea: Bergens Mus. Arbok., Naturvitensk. Rekke., 6 p.
- Mosby, H., 1949, Experiments on bottom friction: Bergens Mus. Arbok., Naturvitensk. Rekke., p. 3-12.
- 471. O'Brien, M. P., 1933, Review of the theory of turbulent flow and its relation to sediment transportation: Am. Geophys. Union Trans., v. 14, p. 487-491.
- 472. O'Brien, M. P., and Rindlaub, B. D., 1934,
  The transportation of bed-load by streams:
  Am. Geophys. Union Trans., v. 15, p. 593603.
- Owens, J. S., 1911, Experiments on the settlement of solids in water: Geog. Jour., v. 37, p. 59-79.
- Rubey, W. W., 1933, Settling velocities of gravel, sand, and silt particles: Am. Jour. Sci., v. 25, p. 325-338.
- 475. Russell, R. C. H., and Osorio, J. D. C., 1957, An experimental investigation of drift profiles in a closed channel: Coastal Engineering, Proc. Sixth Conf., p. 171-193.
- 476. Russell, R. D., 1938, Effects of transportation on sedimentary particles: Recent Marine Sediments, A symposium, Am. Assoc. of Petroleum Geologists, p. 32-47.

- Saville, T., Jr., 1950, Model study of sand transport: Am. Geophys. Union Trans., v. 31, p. 553-565.
- 478. Schroeder, K. B., and Hembree, C. H., 1956, Application of the modified Einstein procedure for computation of total sediment load: Am. Geophys. Union Trans., v. 37, p. 97-212.
- 479. Sundborg, A., 1956. The river Klarllven. A study of fluvial processes: Geografiska annaler, Stockholm, Issue 38.
- 480. Tanner, W. F., 1962, Geomorphology and the sediment transport: Southeastern Geol., v. 4, p. 113-126.
- Univ. California, River and Harbor Lab., 1936,
   Laboratory study of transportation of Columbia River bed materials: Tech. Memo. 11,
   60 p. Unpub.
- 482. Univ. California, River and Harbor Lab., 1936, Correlation of laboratory and field data on the transportation of bed loads by streams: Tech. Memo. 17, 24 p., Unpub.
- 483. Univ. Iowa, 1940, A study of methods used in measurement and analysis of sediment loads in streams: Hydrol. Lab., Rept. 2.
- 484. Van Straaten, L. M. J. U., 1960, Transport and composition of sediments: Verhandelingen Kon. Ned. Geol. Mijnb.k. Gen, Geol. Series D1. 19, p. 279-292.
- 485. Vanoni, V. A., 1946, Transportation of suspended sediment by water transportation: Am. Soc. Civil Engineers Proc., v. 70, p. 793-828.

- 486. Waterways Experiment Station, 1933, Tractive force tests: W. E.S., Vicksburg Tech.

  Memo. 28-1.
- 487. Waterways Experiment Station, 1934, Effect of rate of sand feed on development in directive energy flume: W. E. S. Tech. Memo. 61-4.
- 488. Waterways Experiment Station, 1935, Critical tractive force tests of coarse material:
  W. E. S. Tech, Memo. 69-1.
- 489. Waterways Experiment Station, 1935, Studies of river bed materials and their movement, with special reference to the lower Mississippi River: W.E.S., Vicksburg Tech. Memo. 17.
- 490. Waterways Experiment Station, 1937, Tractive force tests of stone specimen: W.E.S. Tech. Memo. 99-2.
- White, C. M., 1940, The equilibrium of grains on the bed of a stream: Royal Soc., A, Proc., v. 174, p. 322-338.
- 492. White, C. M., 1946, The drag of cylinders in fluids at slow speeds: Royal Soc., A, Proc., v. 186, p. 472-479.
- Zenkovich, V. P., 1958, The methods of the study of the movements of sediments in the ocean. Trudy Instituta Okeanologii AN/SSSR, v. 28.
- 494. Zenkovich, V. P., and Egorov, E. N., 1957, Investigations of the transport of sandy sediments: Trudy Instituta Okeanologii AN/SSSR, v. 21.

## 1. D. 2. b. SEDIMENT TRANSPORT, TRANSPORT BY WAVES

- Anonymous, 1962, Net drift of sediment under wave action: Hydraulics Research, p. 84-86.
- 496. Bagnold, R. A., 1946, Motion of waves in shallow water; interaction between waves and sand bottoms: Royal Soc. London, A, Proc., v. 187, p. 1-15.
- 497. Bagnold, R. A., 1947, Sand movement by waves: Jour. Inst. Civil Engineers, n. 27, p. 447-469.
- Beach Erosion Board, 1952, Summary report on studies of sand transportation by wave action:
   U. S. Beach Erosion Board Bull., v. 6,

- p. 1-17.
- 499. Caldwell, J. M., 1948, An elementary discussion of tides, currents, and wave action in beach erosion: U. S. Beach Erosion Board Bull., v. 2, p. 8-13.
- Caldwell, J. M., 1956, Wave action and sand movement near Anaheim Bay, California: U. S. Beach Erosion Board Tech. Memo. 68.
- Dobbs, P. H., 1958, Effects of wave action on the shape of beach gravel: The Compass, v. 35, p. 269-275.

- 502. Eagleson, P. S., Dean, R. G., and Peral, L. A., 1958, The mechanics of the motion of discrete spherical bottom sediment particles due to shoaling waves: U. S. Beach Erosion Board Tech. Memo. 104.
- 503. Eagleson, P. S., and Dean, R. G., 1959, Wave-induced motion of bottom sediment particles: Am. Soc. Civil Engineer Proc., Hydraulics Div., Paper 2202.
- Einstein, H. A., 1948, Movement of beach sands by water waves: Am. Geophys. Union Trans., v. 29, p. 653-655.
- 505. Evans, O. F., 1941, Wave action and the movement of beach sediments: Shore & Beach, v. 9, p. 108-111.
- Fairchild, J. C., 1959, Suspended sediment sampling in laboratory wave action: U. S.
   Beach Erosion Board Tech. Memo. 115.
- 507. Fisher, R. L., and Mills, R., 1952, Sediment trap studies of sand movement in La Jolla Bay: Geol. Soc. America Bull., v. 63, p. 1328.
- 508. Fridman, R., 1957, Sur des amas periodiques de material plus grossier a la surface de certaine plages sableuses: Comite d'Oceangr. et d'Etude des Cotes Bull., v. 5, p. 471-488.
- 509. Grant, U. S., 1943, Waves as a sand transporting agency: Am. Jour. Sci., v. 241, p. 117-123.
- 510. Grant, U. S., and Shepard, F. P., 1939, Shallow-water sediment-shifting processes along the southern California coast: Sixth Pacific Cong., Pacific Sci. Assoc. Proc., v. 2, p. 801-805.
- 511. Inman, D. L., 1949, Sediment trap studies of suspended material near the surf zone: Scripps Inst. Oceanography Quarterley Progress Report 2, p. 5-6.
- 512. Ippen, A. T., and Eagles, P., 1955, A study of sediment sorting by waves ahoaling on a plane beach: U. S. Beach Erosion Board Tech. Memo. 63.
- 513. Ishihara, T., and Sawaragi, T., 1960, On the critical velocity and depth of water for sand movement and the rate of sand transport due to wave action: Coastal Engineering, Proc. Seventh Conf., p. 47-57.

- 514. Johnson, J. W., 1949, Scale effects in hydraulic models involving wave motion: Am. Geophys. Union Trans., v. 30, p. 517-525.
- 515. Jones, J. H., 1948, Wave action on beaches: Univ. Calif., M. A. Thesis.
- 516. Kempin, E. T., 1954, Beach sand movements at Cottesloe, West Australia: Royal Soc. W. Aust. Jour., v. 37, p. 35-58.
- 517. Kidson, C., and Carr, A. P., 1959, The movement of shingle over the sea bed close inshore: Geog. Jour., v. 125, p. 380-389.
- 518, King, C. A. M., 1951, Depth of disturbance of sand on sea beaches by waves: Jour. Sed. Petrology, v. 21, p. 131-140.
- 519. Kinmont, A., 1962, The nearshore movement of sand at Durban: U. S. Beach Erosion Board Annual Bull., v. 16, p. 11-23.
- Kuenen, Ph. H., 1959, Experimental abrasion
   Fluviatile action on sand: Am. Jour.
   Sci., v. 257, p. 172-190.
- 521. Lafond, E. A., 1939, Sand movement near the beach in relation to tides and waves: Sixth Pacific Sci. Cong., v. 2, p. 795-799.
- 522. Lhermitte, P., 1960, Mouvements des materiaux de fond sous l'action de la houle: Coastal Engineering, Proc. Seventh Conf., v. 1, p. 211-261.
- 523. Longinov, V. V., 1956, The possibility of a direct study of the action of the heavy sea transporting suspended material, under natural conditions: Trudy Instituta Okeanologii Komissii, v. 1.
- 524. Longinov, V. V., 1958, An experiment to ascertain the sediment transporting action of the heavy sea with the aid of observation data on the transformation of waves in the shore zone: Trudy Instituta Okeanologii AN/SSSR, v. 28.
- 525. Longinov, V. V., and Leontyev, O. K., 1951, The problem of the dynamics of the profile of a pebbly beach: Trudy Instituta Okeanologii AN/SSSR, v. 6.
- 526. Manohar, M., 1955, Mechanics of bottom sediment movement due to wave action: U. S. Beach Erosion Board Tech. Memo. 75.
- 527. Mason, M. A., 1942, Abrasion of beach sand: U. S. Beach Erosion Board Tech. Memo. 2.

- 528. O'Brien, M. P., and Morison, J. R., 1952, The forces exerted by waves on objects: Am. Geophys. Union Trans., v. 33, p. 32-38.
- 529. Palmer, H. R., 1834, Observations on the motion of shingle beaches: Royal Soc. Philos. Trans., v. 124, p. 567-576.
- 530. Russell, R. C. H., and Dyke, J. R. J., 1964, The direction of net sediment transport caused by waves passing over a horizontal bed: Inter. Assoc. Hydraulic Research Cong., London.
- Scott, T., 1954, Sand movement by waves:
   U. S. Beach Erosion Board Tech. Memo. 48.
- Shepard, F. P., and Lafond, E. C., 1940, Sand movements along the Scripps Institution pier: Am. Jour. Sci., v. 238, p. 272-285.
- 533. Terry, R. D., 1951, Suspended sediment study of surf at Huntington Beach, California: Univ. Southern Calif., unpubl.

#### sedimentation rept., 21 p.

- 534. Univ. Calif., Berkeley, Inst. Engineering Research, 1951, Final report on sand transportation by wave action: Series, no. 14, Issue, no. 9.
- 535. Univ. Calif., Berkeley, Inst. Engineering Research 1952, Summary report on studies of sand transportation by wave action: U. S. Beach Erosion Board Bull., v. 6, p. 1-17.
- 536. Vincent, G., 1958, Contribution to the study of sediment transport on a horizontal bed due to wave action: Coastal Engineering, Proc. Sixth Conf., p. 326-355,
- 537. Watts, G. M., 1954, Field investigation of suspended sediment in the surf zone: Coastal Engineering, Proc. Fourth Conf., p. 181-199.
- 538. Wheeler, W. H., 1899, The action of waves and tides on the movement of material on the sea coast: Geological Mag., v. 6, p. 70-71.

#### I.D. 2. c. SEDIMENT TRANSPORT, LITTORAL DRIFT

- 539. Abecasis, D. K., 1957, Littoral drift problems in Portugal with special reference to the behavior of inlets on sandy beaches: Coastal Engineering, Proc. Sixth Conf., p. 406-438.
- 540. Anonymous, 1961, The measurement of littoral drift: Hydraulics Research, p. 67-69.
- Bajorunas, L., 1960, Littoral transport in the Great Lakes: Coastal Engineering, Proc. Seventh Conf., p. 326-339.
- 542. Beach Erosion Board, 1948, Littoral drift study, Los Angeles, California: U. S. Beach Erosion Board Bull., v. 2, p. 1-4.
- 543. Bruun, P., 1950, Littoral drift on sea shores: Ingeniren, no. 10, p. 219-228.
- 544. Coultas, H. W., 1954, Observations on the travel of shore material along a chalk foreshore: Coastal Engineering, Proc. Fifth Conf., p. 381-382.
- 545. Fairchild, J. C., (No date), Correlation of littoral drift with incident waves along the U. S. Atlantic Coast at: Fire Island Inlet, Long Island, N. Y.; Sandy Hook, N. J.; Barnegat Inlet, N. J.; and, Cold Spring

- Inlet, N. J.: U. S. Beach Erosion Board, unpub. rept.
- 546. Halcrow, W., and others, 1961, Littoral drift at Dungeness: Hydraulic Research, v. 16, p. 137.
- 547. Iwagaki, Y., and Sawaragi, T., 1960, A new method for estimation of the rate of littoral sand drift: Coastal Engineering, Proc. Seventh Conf., p. 59-67.
- 548. Johnson, J. W., 1953, Sand transport by littoral currents: Fifth Hydraulic Conf. Proc., Bull. 34, p. 89-109.
- 549. Johnson, J. W., 1957, The littoral drift problem at shoreline harbors: Am. Soc. Civil Engineers Proc., Jour. Waterways and Harbors Div., v. 83, p. 12H-1 - 1211-37.
- 550. Kidson, C., 1961, Movement of beach materials on the east coast of England: East Midland Geog., v. 2, p. 3-16.
- 551. Krumbein, W. C., and Ohsiek, L. E., 1950, Pulsation transport of sand by shore agents: Am. Geophys. Union Trans., v. 31, p. 216–220.

- 552. Longinov, V. V., 1948, The dependence of the direction of the waves, corresponding to the maximum speed of sediment transportation along the shore, on the incline of the floor: Izvestiya AN/SSSR, Seriya Geogr. I. Geofis., no. 4
- 553. McMaster, R. L., 1960, Mineralogy as an indicator of beach sand movement along the Rhode Island shore: Jour. Sed. Petrology, v. 30, p. 404-413.
- 554. Munch-Peterson, J., 1938, Littoral drift formula: U. S. Beach Erosion Board Bull., v. 4, p. 1-31.
- 555. Pincus, H. J., 1953, The motion of sediment along the south shore of Lake Erie: Coastal Engineering, Proc. Fourth Conf., p. 119-146.
- 556. Reinalda, H., 1960, Scale effects in models with littoral sand-drift: Coastal Engineering Proc. Seventh Conf., p. 318-325.
- 557. Saville, T., Jr., 1950, Model study of sand transport along an infinitely long, straight beach: Am. Geophys. Union Trans., v. 31,

#### p. 555-565.

- 558. Shay, E. A., and Johnson, J. W., 1951, Model studies on the movement of sand transported by wave action along a straight beach: Berkeley, Calif., Eng. Foundation, unpubl. rept.
- 559. Svendsen, SV., 1950, Munch-Petersen's littoral drift formula: U. S. Beach Erosion Board, v. 4, p. 1-31.
- Trask, P. D., 1955, Movement of sand around Southern California promontories: U. S. Beach Erosion Board Tech. Memo. 76.
- 561. Valembois, J., 1960, Étude sur modèle du transport littoral conditions de similitude: Coastal Engineering, Proc. Seventh Conf., p. 307-317.
- 562. Watts, G. M., 1953, A study of sand movement at South Lake Worth Inlet, Florida: U. S. Beach Erosion Board Tech. Memo. 42.
- Wheeler, W. H., 1900, Sea-coast destruction and littoral drift: Nature, v. 62, p. 400-402.

## I.D.2.d. SEDIMENT TRANSPORT, OTHER METHODS OF TRANSPORT

- Babcock, B.A., 1957, Analysis of wind blown sediment: Univ. Southern Calif., unpubl. sedimentation rept., 16 p.
- 565. Bell, H. S., 1942., Density currents as agents for transporting sediments: Jour. Geology, v. 50, p. 512-547.
- 566. Emery, K. O., 1941, Transportation of rock particles by sea mammals: Jour. Sed. Petrology, v. 11, p. 92-93.
- Emery, K. O., 1945, Transportation of marine beach sand by flotation: Jour. Sed. Petrology, v. 15, p. 84-87.
- Evans, O. F., 1939, Sorting and transportation of material in the swash and backwash: Jour. Sed. Petrology, v. 9, p. 28-31.
- Lafond, E. C., 1938, Relationship between mean sea level and sand movements: Science,

- v. 88, p. 112-113.
- 570. Leypoldt, H., 1941, Mean sea-level and sand movements: Science, v. 94, p. 607-609.
- 571. MacCarthy, G. R., and Huddle, J. W., 1938, Shape sorting of sand grains by wind action: Am. Jour. Sci., v. 35, p. 64-73.
- 572. O'Brien, M. P., and Rindlaub, B. D., 1936, The transportation of sand by wind: Civil Eng., v. 6, p. 325-326.
- 573. Off, T., 1963, Rhythmic linear sand bodies caused by tidal currents: Am. Assoc. Petroleum Geologists, v. 47, p. 324-340.
- 574. Shepard, F. P., 1951, Transportation of sand into deep water: Soc. Econ. Paleontologists and Mineralogists, Spec. Publ. 2, p. 53-65.

#### I.D. 2. e. SEDIMENT TRANSPORT, TRACER STUDIES

575. Anonymous, 1961, Unidirectional channel flow: measurement of sand transport with radio-

active tracers: Hydraulics Research, p. 25-30.

- 576. Arlman, J. J., Santema, P., and Svasek, J. N., 1958, Movement of bottom sediment in coastal waters by currents and waves: measurements with the aid of radioactive tracers in the Netherland: U. S. Beach Erosion Board Tech. Memo, 105.
- 577. Arlman, J. J., and others, 1960, The use of radioactive isotopes for the study of littoral drift. Importance of accurate investigation of coastal currents: Dock & Harbour, v. 41, p. 54-57.
- 578. Bruun, P., 1962, Tracing of material movement on seashores: Shore and Beach, v. 30, p. 10-15.
- 579. Caldwell, J. M., 1960, Development and tests of a radioactive sediment density probe: U. S. Beach Erosion Board Tech. Memo. 121.
- 580. Crickmore, M. J., and Lean, G. H., 1962, The measurement of sand transport by means of radioactive tracers: Royal Soc. London, A, Proc., v. 266, p. 402-421.
- Crickmore, J. J., and Lean, G. H., 1962, The measurement of sand transport by the timeintegration method with radioactive tracers: Royal Soc. London, A, Proc., v. 270, p. 27-47.
- Davidson, J., 1958, Investigations of sand movement using radio-active sand: Lund Studies in Geog. Ser. A. Phys. Geog. 12, p. 107-126.
- 583. Forrest, G., 1957, Observations du chariage littoral au moyen d'elements radio actifs: Jour. de la Marine No. sp. Nouveautes Techniques maritimes.
- 584. Germain, J., Forrest, G., and Jaffry, P., 1957, Utilisation des traceurs radioactifs pour l'etude des movements de sediments marins: Coastal Engineering, Proc. Sixth Conf., p. 314-325.
- 585. Gibert, A., and others, 1958, Tracing sand movement under sea water with Ag 110: Second U. N. Conference on the Peaceful Uses of Atomic Energy, A/Conf. 15/P/1820, Lisbon, Portugal.
- 586. Goldberg, E. D., and Inman, D. L., 1955, Neutron-irradiated quartz as a tracer of sand movements: Geol. Soc. America Bull., v. 66, p. 611-612.
- 587. Hiranandani, M. G., and Cole, C. V., 1960.

- Use of radioactive tracer for the study of sediment movement off Bombay Harbor: Tech. Memo. 1, Central Water and Power Research Station, Poona, India.
- 588. Hours, R., and Jaffry, P., 1959, Application des isotopes radioactifs a l'etude des mouvements des sediments et des galets dans les cours d'eau et in mer: La Houille Blanche, No. 3, p. 1-30.
- 589. Hours, R., Nesteroff, W. D., and Romanovsky, V., 1955, Methode d'etude de l'evolution des plages par traceurs radio-actifs: Trav. Centr. Rech. d'Etudes Oceanogr. I.
- 590. Hydraulic Research Station, 1956, Radioactive tracers in the Thames estuary: Dept. Sci. Indus., London, Res. Paper 20.
- 591. Hydraulic Research Station, 1958, Radioactive tracers for the study of sand movements: Hydraulics Research Station, Wallingford, Berksline, England.
- 592. Ijima, T., and others, The observation of sand movement by radioactive glass sand at the Isohama on the Pacific Coast: Hydraulic Research v. 16, p. 278.
- 593. Ingle, J. C., Jr., 1962, Tracing beach sand movement by means of fluorescent sand: Shore and Beach, v. 30, p. 31-36.
- 594. Inman, D. L., and Chamberlain, T. K, 1959, Tracing beach sand movement with irradiated quartz: Jour. Geophys. Research, v. 64, p. 41-47.
- 595. Inman, D. L., and Goldberg, E. D., 1955, Neutron irradiated quartz as a tracer of sand movement: Geol. Soc. America Bull., v. 66, p. 611-613.
- 596. Inose, S., and others, 1955, The field experiment of littoral drift using radioactive glass sand: International Conference on the Peaceful Uses of Atomic Energy, Conf. 8/P/1053, Japan.
- 597. Inose, S., and Shiraishi, N., 1956, The measurement of littoral drift by radio isotopes: Dock and Harbour, v. 36, p. 284-288.
- 598. Jaffry, P., and Heuzel, M., 1960, Emploi de traceurs radioactifs pour l'etude du transport solide dans les cours d'eau: Assoc. Internationale D'Hydrologie Scientifique, Pub. no. 52, p. 559-567.

- 599. Jaffry, P., and Hours, R., 1959, L'etude du transport littoral par la methode des traceurs radioactifs: Cahiers Oceanographiques du C.O.E.C., v. 9, p. 7.
- 600. Jolliffe, I. P., 1961, The use of tracers to study beach movements; and the measurement of littoral drift by a fluorescent technique: Hydraulics Research Station, D.S.I.R., Wallingford, Berkshire, England.
- 601. Kidson, C., Carr, A. P., and Smith, D. B., 1958, Further experiments using radioactive methods to detect the movement of shingle over the sea bed and alongshore: Geog. Jour., v. 124, p. 210-218.
- 602. Kidson, C., and Carr, A. P., 1962, Marking beach materials for tracing experiments: Am. Soc. Civil Engineers Proc., Jour. of the Hydro. Div., v. 88, p. 43-61.
- 603. Kidson, C., and others, 1956, Drift experiments with pebbles: Nature, v. 178, p. 257.
- 604. Krone, R. B., Einstein, H. A., Kaufman, W. J., and Snyder, N. W., 1957, Silt transport studies utilizing radioisotopes: Berkeley, Calif., Eng. Foundation, First Ann. Prog. Rept., 118 p.
- 605. Krone, R. B., Einstein, H. A., Kaufman, W. J., and Orlob, G. T., 1959, Silt transport studies utilizing radioisotopes: Berkeley, Calif., Eng. Foundation, Second Ann. Prog. Rept. 123 p.
- 606. Lean, G. H., and Crickmore, M. J., Methods for measuring sand transport using radioactive tracers: Hydraulics Research Station, Wallingford, Berkshire, England.
- 607. Medvedev, V. S., and Ajbulatov, N. A., 1956, The use of marked sand in the study of transportation of marine sediments: Izvestiya AN/SSSR, Seriya Geogr., no. 4.
- 608. Medvedev, V. S., and Ajbulatov, N. A., 1958, The study of the dynamics of a sandy lowlying coast with the aid of luminiphores and / or cableways: Trudy Instituta Okeanographii AN/SSSR, v. 10.
- 609. Mehmel, M., 1938, Application of x-ray methods to the investigation of recent sediments: Recent Marine Sediment, A Symposium, Am. Assoc. Petroleum Geologists, p. 616-630.
- 610. Putman, J. L., and Smith, D. B., 1956, Radio-

- active tracer techniques for sand and silt movements under water: Inter. Jour. Applied Radiation and Isotopes, v. 1, p. 24-32.
- Reid, W. J., 1958, Coastal experiments with radioactive tracers: Dock and Harbor, v. 39, p. 84-8.
- 612. Reid, W. J., and Jolliffe, I. P., 1961, A note on coastal experiments with fluorescent tracers: Bristol Naturalists' Soc. Proc., v. 30, p. 273-274.
- 613. Reid, W. J., and Jolliffe, I. P., 1961, Coastal experiments with fluorescent tracers: Measuring quantity and direction of littoral drift: Dock and Harbour, v. 41, p. 341-345.
- 614. Russell, R. C. H. 1966. The use of fluorescent tracers for the measurement of littoral drift: Coastal Engineering, Proc. Seventh Conf., p. 413-444.
- 615. Smith, D. B., 1957, Radioactive methods for labeling and tracing sand and pebbles in investigations of littoral drift: UNESCO/NS/ RIC/63. London, Pergamon Press, 12 p.
- 616. Steers, J. A., and Smith, D. B., 1956.

  Detection of movement of pebbles on the sea floor by radioactive methods: Geog. Jour...
  v. 122. p. 343-345.
- 617. Svasek. J. N., and Engel. H., 1960, Use of a radio-active tracer for the measurement of sediment transport in the Netherlands: Coastal Engineering, Proc. Seventh Conf., p. 445-454.
- 618. Wright, F. F., 1962, The development and application of a fluorescent marking technique for tracing sand movement on beaches: Tech. Rept. No. 2, Proj. NR 388-057, Contract Nonr 266(68), Office of Naval Research, Geography Branch, Washington, D. C.
- 619. Yasso, W. E., 1962, Fluorescent coatings on coarse sediments: an integrated system: Office of Naval Research, Geography Branch, Tech. Rept. 1.
- 620. Zenkovitch, V. P., 1958, Emploi de luminophores pour l'etude du mouvement des alluvions sablonneuses: Moscow, Bu. d'Information du Comite Central d'Oceanographic et d' Etude des Cotes, v. 15.

- 621. Zenkovitch, V. P., 1960, Fluorescent substances as tracers for studying the movements of sand on the sea bed: Dock & Harbour, v. 40, p. 280-283.
- 622. Zenkovitch, V. P., 1962, Application of luminiscent substances for sand-drift investigations in the near-shore zones of the sea: De Ingenieur, v. 13, Bouw- en Waterbouwkunde, p. 81-89.

#### II. A. BEACH AND NEARSHORE PROCESSES, GENERAL WAVE THEORY

- 623. Allen, J., and Gibson, D. H., 1959, Experiments on the displacement of water by waves of various heights and frequencies: Inst. Civil Engineers, Proc., v. 13, p. 363-386.
- 624. Arthur, R. S., 1949, Variability in direction of wave travel: New York Acad. Sci. Ann., v. 51, p. 511-522.
- 625. Arthur, R. S., 1950, Wave forecasting and hindcasting: Coastal Engineering, Proc. First Conf., p. 82-87.
- 626. Bagnold, R. A., 1939, Interim Report on wave pressure research: Jour. Inst. Civil Engineers, v. 12, p. 202-226.
- 627. Barber, N. F., and Ursell, F., 1948, Generation and propagation of ocean waves and swell: Royal Soc. London Philos. Trans., A, v. 240, p. 527-560.
- 628. Bascom, W. N., 1959, Ocean waves: Scientific American, 4. 201, p. 75-84.
- 629. Bates, C. C., 1949, Utilization of wave forecasting in the invasion of Normandy, Burma, and Japan: New York Acad. Sci. Ann., v. 51, p. 545-569.
- 630. Beach Erosion Board, 1942, A summary of the theory of oscillatory waves: U. S. Beach Erosion Board Tech. Rept. 2.
- 631. Borgman, L. E., and Chappelear, J. E., 1957, The use of the Stokes-Struik approximation for waves of finite height: Coastal Engineering, Proc. Sixth Conf., p. 252-280.
- 632. Boucher, J. W., 1947, Oscillatory waves: Univ. Calif., M. S. Thesis.
- 633. Bowden, K. F., 1948, Some observations of waves and other fluctuations in a tidal current: Royal Soc. London Proc., v. 192, p. 403-425.
- 634. Bretschneider, C. L., 1951, Revised waveforecasting curves and procedure: Berkeley, Calif., Eng. Foundation Rept. p. 155-47.

- Bretschneider, C. L., 1951, Revised wave forecasting relationships: Coastal Engineering, Proc. Second Conf., p. 1-5.
- 636. Bretschneider, C. L., 1952, The generation and decay of wind waves in deep water: Am. Geophys. Union Trans., v. 33, p. 381-389.
- 637. Bretschneider, C. L., 1954, Generation of wind waves over a shallow bottom: U. S. Beach Erosion Board Tech. Memo. 51.
- 638. Bretschneider, C. L., 1956, Wave forecasting relationships for the Gulf of Mexico: U. S. Beach Erosion Board Tech. Memo. 84.
- 639. Bretschneider, C. L., 1959, Wave variability and wave spectra for wind-generated gravity waves: U. S. Beach Erosion Board Tech. Memo. 118.
- 640. Bretschneider, C. L., and Gaul, R. C., 1956, Wave statistics for the Gulf of Mexico off Apalachicola, Florida: U. S. Beach Erosion Board Tech. Memo. 88.
- 641. Bretschneider, C. L., and Gaul, R. C., 1956, Wave statistics for the Gulf of Mexico off Brownsville, Texas: U. S. Beach Erosion Board Tech. Memo. 85.
- 642. Bretschneider, C. L., and Gaul, R. C., 1956, Wave statistics for the Gulf of Mexico off Burrwood, Louisiana: U. S. Beach Erosion Board Tech. Memo. 87.
- 643. Bretschneider, C. L., and Gaul, R. C., 1956, Wave statistics for the Gulf of Mexico off Caplen, Texas: U. S. Beach Erosion Board Tech. Memo. 86.
- 644. Bretschneider, C. L., and Gaul, R. C., 1956, Wave statistics for the Gulf of Mexico off Tampa Bay, Florida: U. S. Beach Erosion Board Tech. Memo. 89.
- 645. Burt, W. V., and Sauer, J. F., Jr., 1948, Hindcasting technique provides statistical wave data: Civil Eng., v. 18, p. 47-49.

- 646. Cartwright, D. E., 1958, Estimating the mean energy of sea waves from highest waves in a record: Royal Soc. London Proc., v. 247, p. 22-48.
- 647. Champion, D. L., 1946, Wind and sea at coastal stations and the effects of the angle between wind and shore: Jour. Royal Meteorol. Soc., v. 72, p. 221-229.
- 648. Charney, J. G., 1955, The generation of ocean currents by wind: Jour. Mεrine Research, v. 14, p. 477-498.
- 649. Charnock, H., 1958, A note on empirical windwave formulae: Geol. Soc. London Jour., v. 84, p. 443-447.
- 650. Crease, J., 1958, The propagation of long waves into a semi-infinite channel in a rotating system: Jour. Fluid Mech., v. 4, p. 306-320.
- Darbyshire, J., 1952, The generation of waves by wind: Royal Soc. London, A, Proc., v. 215, p. 299-328.
- 652. Darbyshire, J., 1956, The distribution of wave heights; a statistical method based on observation: Dock and Harbour, v. 37.
- 653. Darbyshire, J., 1961, Prediction of wave characteristics over the North Atlantic: Jour. Inst. Navig., v. 14, p. 339-347
- 654. Deacon, G. E. R., 1949, Waves and swell: Jour. Royal Meteorol. Soc., v. 75, p. 227-238.
- 655. Deacon, G. E. R., 1950, Energy exchange between the oceans and the atmosphere: Nature, v. 165, p. 173-174.
- 656. Dearduff, R. F., 1953, A comparison of observed and hindcast wave characteristics off southern New England: U. S. Beach Erosion Board Bull., v. 7, p. 4-14.
- 657. Dearduff, R. F., 1955, A comparison of deep water wave forecasts by the Pierson-Neumann, the Darbyshire, and the Sverdrup-Munk-Bretschneider methods with recorded waves for Point Arguello, California for 26-29 October 1950: U. S. Beach Erosion Board Bull., v. 9, p. 5-13.
- 658. Diephuis, J. G. H. R., and Gerritze, J. G., 1958, Determination of the wave height in nature from model tests supplemented by

- calculation: Coastal Engineering, Proc. Sixth Conf., p. 202-208.
- 659. Dobroklonskiy, S. B., 1947, Turbulent viscosity in the upper layer of the sea and swell: Dok. Akad. Nauk., SSSR., Nova., v. 58.
- Donn, W. L., 1949, Studies of waves and swell in western North Atlantic: Am. Geophys. Union Trans., v. 30, p. 507-516.
- Draper, L., 1958, Experimental studies of water waves: Nottingham University, England, M. S. Thesis.
- 662. Eagleson, P. S., 1959, The damping of oscillatory waves by laminar boundary layers: U. S. Beach Erosion Board Tech. Memo, 17.
- 663. Eckart, C. H., 1953, The generation of wind waves on a water surface: Scripps Inst. Oceanog., Cont. No. 648, p. 1485-1494.
- 664. Eckart, C. H., 1953, The progration of gravity waves from deep to shallow water: Scripps Inst. Oceanog. Cont. No. 621, p. 165-173.
- 665. Ehring, H., 1950, Characteristics of measured wave action on the basis of the frequency distribution of wave length, wave height, and steepness: U. S. Beach Erosion Board Bull., v. 4, p. 30-35.
- 666. Emery, K. O., 1958, Wave patterns off southern California: Jour. of Marine Research, v. 17, p. 133-140.
- Emery, K. O., 1963, An aerial study of Hawaian wave petterns: Pacific Sci., v. 17, p. 255-260.
- 668. Flinsch, H. V. N., 1946, An experimental investigation of wind-generated surface waves: Univ. Minnesota, Ph.D. Dissertation.
- 669. Folsom, R. G., 1947, Sub-surface pressures due to oscillatory waves: Am. Geophys. Union Trans., v. 28, p. 875-881.
- 670. Fuchs, R. A., Wiegel, R. L., and others, 1952, Wave theory, useful graphs and tables of functions: Manual of Amphibious Oceanography, Section II, Washington, D. C.
- 671. Groen, P., and Dorrestein, R., 1950, Ocean swell: Its decay and period increase: Nature, v. 165, p. 445-447.

- 672. Haurwitz, B., 1943, The effect of a gradual wind change on the stability of waves: New York Acad. Sci. Ann., v. 44, p. 69-80.
- 673. Haurwitz, B., 1948, The effect of ocean currents on internal waves: Jour. Marine Research, v. 7, p. 217-228.
- 674. Haurwitz, B., 1950, Internal waves of tidal character: Am. Geophys. Union Trans., v. 31, p. 47-52.
- 675. Hela, I., 1948, On the stress of the wind on the water surface: Geophysica, v. 3, p. 146-161.
- 676. Inoue, E., 1950, The application of turbulence theory to oceanography: Jour. Meteorol. Soc., Japan, v. 28, p. 420-424.
- 677. Isaacs, J. D., and Saville, T., Jr., 1949,
  The comparison of forecast and recorded
  waves on the Pacific coast: New York Acad.
  Sci. Ann., v. 51, p. 343-t72.
- 678. Isaacs, J. D., Schorr, S., and Chinn, A. C., 1947, Records of waves on the Pacific Coast of California: Berkeley, Calif., Eng. Foundation, Rept. HE-116-263.
- 679. James, R. W., 1954, Wave forecast based on the energy spactra method: Am. Geophys. Union Trans., v. 35, p. 153-160.
- 680. Jeffreys, H., 1926, Formation of water waves by wind: Royal Soc. London, A, Proc., v. 110, p. 241-246.
- 681. Johnson, J. W., 1948, The characteristics of wind waves on lakes and protected bays: Am. Geophys. Union Trans., v. 29, p. 671-681.
- 682. Johnson, J.W., 1950, Relationships between wind and waves, Abbotts Lagoon, California: Am. Geophys. Union Trans., v. 31, p. 386-392.
- 683. Johnson, J. W., 1953, Summary of wave data for San Francisco Bay and vicinity: Berkeley, Calif., Inst. Engineering Research Ser., no. 3.
- 684. Johnson, J. W., 1960, The effect of wind and wave action on the mixing and dispersion of wastes: "Waste Disposal in the Marine Environment," Pergamon Press, p. 328-343.

- 685. Kaplan, K., 1955, Generalized laboratory study of Tsunami run-up: U. S. Beach Erosion Board Tech. Memo. 60.
- 686. Lawford, A. L., and Veley, V. F. C., 1956, Change in the relationship between wind and surface water movement at higher wind speeds: Am. Geophys, Union Trans., v. 37, p. 691-693.
- 687. Lesbordes, R., 1950, Energy in swell and chop on the sea: Rev. Gen. Hyd., v. 16, p. 3-18.
- Longuet-Higgins, M. S., 1952, Statistical distribution of the heights of sea waves: Jour. Marine Research, v. 11, p. 245-266.
- 689. Longuet-Higgins, M. S., 1953, Mass transport in water waves: Royal Soc. London, Philos. Trans., A, v. 245, p. 535-581.
- 690. Longuet-Higgins, M. S., 1953, On the decrease of velocity with depth in an irrotational water wave: Cambridge Phil. Soc. Proc., v. 49, p. 552-560.
- 691. Longuet-Higgins, M. S., 1958, The mechanics of the boundary-layer near the bottom in a progressive wave: Coastal Engineering, Proc. Sixth Conf., p. 184-193.
- 692. Longuet-Higgins, M. S., 1960, Mass transport in the boundary layer at a free oscillating surface: Jour. Fluid Mechanics, v. 8, p. 293-306.
- 693. Longuet-Higgins, M. S., and Stewart, R. W., 1962, Radiation stress and mass transport in gravity waves with application to surf beats: Jour. of Fluid Mechanics, v. 13, p.481-504.
- 694. Lowell, S. C., 1949, The propagation of waves in shallow water: Comm. Appl. Math., v. 2, p. 275-291.
- 695. McDonald, W. F., 1932, Notes on the exchange of energy between ocean and atmosphere: Am. Geophys. Union Trans., v. 13, p. 131-136.
- 696. MacDonald, G. A., Shepard, F. P., and Cox, D. C., 1947, The tsunamis of April 1, 1946, in the Hawaiian Islands: Pacific Sci., v. 1, p. 21-37.
- 697. Makkaveav, V. M., 1951, Reckoning with the wind factor and the roughness of the floor in connection with the dynamics of waves and currents: Trudy Gos. Gidrolog. Instituta, no. 38 (82).

- 698. Mandelbaum, H., 1956, Evidence for a critical wind velocity for air-sea boundary processes: Am. Geophys. Union Trans., v. 37, p. 685-690.
- 699. Mason, M. A., 1941, A study of progressive oscillatory waves in water: U. S. Beach Erosion Board Tech. Rept. 1.
- Mewes, W., 1950, Wave dimensions in the North and Baltic seas: U. S. Beach Erosion Board Bull., v. 4, p. 1-30.
- Michell, J. H., 1893, On the highest waves in water: Philosophical Magazine, v. 36, no. 5.
- 702. Mitchim, C. F., 1940, Oscillatory waves in deep water: Mil. Engineer, v. 32, p. 107-109
- Morison, J. R., 1951, The effect of wave steepness on wave velocity: Am. Geophys. Union Trans., v. 32, p. 201-206.
- 704. Munk, W. H., 1944, Proposed uniform procedure for observing waves and interpreting instrument records: Scripps Inst. Oceanog. Wave Rept. 26.
- 705. Munk, W. H., 1947, A critical wind speed for air-sea boundary processes: Jour. Marine Research, v. 6, p. 203-218.
- 706. Munk, W. H., 1947, Increase in the period of waves traveling over large distances, with applications to tsunamis, swell, and seismic surface waves: Am. Geophys. Union Trans., v. 28, p. 189-217.
- Munk, W. H., 1947, Tracking storms by forerunners of swell: Jour. Meteorology, v. 4, p. 45-57.
- Munk, W. H., 1949, Surf beats: Am. Geophys. Union Trans., v. 30, p. 849-854.
- Munk, W. H., 1950, Origin and generation of waves: Coastal Engineering, Proc. First Conf., p. 1-4.
- Munk, W. H., and Arthur, R. S., 1951, Fore-casting ocean waves: Compendium of Meteorology, American Meteorol. Soc., p. 1082-1089.
- 711. Munk, W. H., and Sverdrup, H. U., 1946, Empirical and theoretical relation between wind, sea, and swell: Am. Geophys. Union Trans., v. 27, p. 823-827.

- 712. Munk, W. H., Tucker, M. J. and Snodgrass, F., 1957, Remarks on the ocean wave spectrum: National Academy of Sciences, National Research Council, Pub. 515.
- 713. National Academy of Sciences, 1963, Wave spectra: Proceedings of a conference, sponsored by the U. S. Naval Oceanographic Office, Easton, Maryland, Prentice-Hall, Inc.
- 714. Neumann, G., 1949, The generation of water waves by wind: Deutsch. Hydr. Zs., v. 2, p. 187-199.
- 715. Neumann, G., 1952, The generation of water waves by wind: U. S. Beach Erosion Board Bull., v. 6, p. 26-33.
- 716. Neumann, G., 1953, On ocean wave spectra and a new method of forecasting wind-generated sea: U. S. Beach Erosion Board Tech. Memo. 43.
- 717. O'Brien, M. P., and Mason, M. A., 1941, A summary of the theory of oscillatory waves: U. S. Beach Erosion Board Tech. Rept. 2.
- Peroud, P., 1959, The propagation of tidal waves into channels of gradually varying cross-section: U. S. Beach Erosion Board Tech. Memo. 112.
- Pierson, W. J., Jr., Neumann, G., and James, R. W., 1955, Observing and forecasting ocean waves: U. S. Navy Hydrog. Off. Pub., 603, 284.
- Putz, R. R., 1950, Wave height variability; prediction of the distribution function: Berkeley, Calif. Eng. Foundation Tech. Rept. HE-116-318.
- Putz, R. R., 1952, Statistical distributions for ocean waves: Am. Geophys. Union Trans., v. 33, p. 685-692.
- 722. Putz, R. R., 1953, Statistical analysis of wave records: Coastal Engineering, Proc. Fourth Conf., p. 13-23.
- 723. Roll, H. U., 1952, On the expansion of the sea waves due to the effect of wind (based on the measurements in shallow tidal waters): U.S. Beach Erosion Board Bull., v. 6, p. 22-25.
- 724. Roll, H. U., 1956, Wind distribution over sea waves: U. S. Beach Erosion Board Bull., v. 10, p. 1-10.

- 725. Rossby, C. G., 1947, Notes on the distribution of energy and frequency in surface waves: Jour. Marine Research, v. 6, p. 93-103.
- 726. Savage, R. P., 1954, A statistical study of the effect of wave steepness on wave velocity: U. S. Beach Erosion Board Bull., v. 8, p. 1-10.
- 727. Saville, T., Jr., 1955, A simplified method of determining durations and frequencies of waves greater or less than a specified height U. S. Beach Erosion Board Bull., v. 9, p. 1-4.
- 728. Scripps Institute of Oceanography, 1947, A statistical study of wave conditions at five open sea localities along the California coast: Scripps Inst. Oceanog. Wave Report 510, 68 p., unpub.
- 729. Sibul, O. J., 1956, Water surface roughness and wind shear stress in a laboratory windwave channel: U.S. Beach Erosion Board Tech. Memo. 74.
- Stanton, T., Marshall, D., and Houghton, R., 1932, The growth of waves on water due to action of the wind: Royal Soc. London, A, Proc., v. 137, p. 283-293.
- 731. Starr, V. P., 1948, Estimates of water transport produced by wave action: Jour. Marine Research, v. 7.
- 732. Stoker, J. J., Jr., 1948, Waves over beaches of small slope, under docks, (etc.): Comm. App. Math., v. 1, p. 101-108.
- 733. Stoker, J. J., 1957, Water waves: Interscience Publications Inc., New York.
- 734. Stokes, G. G., 1847, On the theory of oscillatory waves: Cambridge Philos. Soc. Trans. v. 8, p. 441-455.
- 735. Suquet, F., and Wallet, A., 1953, Basic experimental wave research: Minnesota Internat. Hydrol. Convention Proc., p. 173-191.
- 736. Sverdrup, H. U., 1947, Period increase of ocean swell: Am. Geophys. Union Trans., v. 28, p. 407-417.
- 737. Sverdrup, H. U., and Munk, W. H., 1946, Empirical and theoretical relations between wind, sea and swell: Am. Geophys. Union Trans., v. 27, p. 823-827.

- 738. Sverdrup, H. U., and Munk, W. H., 1947, Wind, sea and swell: Theory of relations for forecasting: U. S. Hydrog. Office, U. S. Navy, Rept. 1, H. O. Pub. 601.
- 739. Tucker, M. J., 1950, Surf beats; sea waves of 1 to 5 min. period: Royal Soc. London Proc. A, v. 202, p. 565-573.
- 740. Tucker, M. J., 1959, The study of sea waves: The New Scientist, v. 6, p. 275-277.
- Ufford, C. W., 1947, Internal waves in the ocean: Am. Geophys. Union Trans., v. 28, p. 79-86.
- 742. Ufford, C. W., 1947, Internal waves measured at three stations: Am. Geophys. Union Trans., v. 28, p. 87-95.
- Ufford, C. W., 1947, The theory of internal waves: Am. Geophys. Union Trans., v. 28, p. 96-101.
- 744. Unna, P.J. H., 1949, Speed of wave energy: Nature, v. 164, p. 887-888.
- 745. U. S. Hydrographic Office, 1943, Wind, waves and swell: principles in forecasting: U. S. Hydrog. Office, U. S. Navy, H. O. Misc. 11, 275 p.
- U. S. Navy, 1943-1950, Atlas of sea and swell charts: Hydro. Off. Misc. Pub. 10712-A through D.
- 747. Ward, H. A., 1952, A method of separating multiple systems of ocean waves for detailed study of directions and other properties: U. S. Beach Erosion Board Bull., v. 6, p. 1-13.
- 748. Wiegel, R. L., 1948, Diagrams and tables of relationships commonly used in investigations of surface waves: U. S. Beach Erosion Board Bull., Spec. Issue, No. 1
- 749. Wiegel, R. L., 1949, An analysis of data from wave recorders on the Pacific Coast of the United States: Am. Geophys. Union Trans., v. 30, p. 700-704.
- Wiegel, R. L., 1960, Wind, waves, and swell: Coastal Engineering, Proc. Seventh Conf., p. 1-40.
- 751. Wiegel, R. L., and Johnson, J. W., 1950, Elements of wave theory: Coastal Engineering, Proc. First Conf., p. 5-12.

- 752. Wiegel, R. L., and Kimberly, H. L., 1950, Southern swell observed at Oceanside, California: Am. Geophys. Union Trans., v. 31, p. 717-722.
- 753. Williams, A. J., and Cartwright, D. E., 1957, A note on the spectra of wind waves: Am. Geophys. Union Trans., v. 38, p. 864-866.
- 754. Wilson, B. W., 1956, Graphical approach to the forecasting of waves in moving fetches:

- U. S. Beach Erosion Board Tech. Memo. 73.
- 755. Yoshida, K., 1950, On certain approximate solutions of wave equations and their applications to some long-wave problems: Geophys. Notes, v. 3, 4 p.
- 756. Yoshida, K., 1950, On water movements associated with waves: Geophys. Notes, v. 3, 5 p.

#### II. B. 1. SHOALING AND BREAKING WAVES, GENERAL

- 757. Beach Erosion Board, 1949, Forecasting breakers and surf on a straight beach of infinite length: U. S. Beach Erosion Board Bull., v. 3, p. 23-32.
- 758. Bigelow, H. B., and Edmondson, W. T., 1947, Wind waves at sea, breakers and surf: U. S. Navy Hydro. Off. Pub. 602, 177 p.
- 759. Bretschneider, C. L., 1954, Field investigation of wave energy loss of shallow water ocean waves: U. S. Beach Erosion Board Tech. Memo. 46.
- 760. Bretschneider, C. L., and Le Mehaute, B., 1962, Modification of wave spectra on the continental shelf and in the surf zone: National Engineering Science Company.
- 761. Bretschneider, C. L., and Reid, R. O., 1954, Modification of wave height due to bottom friction, percolation and refraction: U. S. Beach Erosion Board Tech. Memo. 45.
- 762. Burnside, W., 1915, On the modification of a train of waves as it advances into shallow water: Math. Soc. London, Proc., v. 14, p. 131.
- 763. Carr, J. H., 1951, Forces exerted by waves on a sloping board: Am. Geophys. Union Trans., v. 32, p. 777-779.
- 764. Diephuis, J. G. H. R., 1958, Scale effects involving the breaking of wayes: Coastal Engineering, Proc. Sixth Conf., p. 194-201.
- 765. Eagleson, P. S., 1956, Properties of shoaling waves by theory and experiment: Am. Geophys. Union Trans., v. 37, p. 565.
- 766. Evans, O. F., 1950, On the action of waves

- breaking against the edges of a submerged shelf: Jour. Geology, v. 58, p. 281-282.
- 767. Friedrichs, K. O., 1948, Water waves on a shallow sloping beach: Comm. Appl. Math., v. 1, p. 109-134.
- 768. Grant, U. S., and Shepard, F. P., 1946, Effect of type of waves breaking on shore processes: Geol. Soc. America Bull., v. 57, p. 1252.
- 769. Granthem, K. N., 1953, A model study of wave run-up on sloping structures: Berkeley, Calif., Eng. Foundation, Series 3.
- 770. Groen, P., and Weenink, M. P. H., 1950, Two diagrams for finding breaker characteristics along a straight coast: Am. Geophys. Union Trans., v. 31, p. 398-400.
- 771. Hall, J.A., 1962, Surf climate at three selected U. S. coastal locales - Atlantic City, N. J.; Hillsboro Inlet, Florida; Yaquina Bay, Oregon: U. S. Beach Erosion Board Bull., v. 16, p. 25-35.
- 772. Hall, J. V., Jr., and Watts, G. M., 1953, Laboratory investigation of the vertical rise of solitary waves on impermeable slopes: U. S. Beach Erosion Board Tech. Memo. 33.
- 773. Hamilton, W. S., 1950, Forces exerted by waves on a sloping board: Am. Geophys. Union Trans., v. 31, p. 849-855.
- 774. Hidaka, K., 1947, On the dynamics of roll waves: Geophys. Mag., Tokyo, v. 15, p. 1-4.
- 775. Housley, J. G., and Taylor, D. C., 1957, Application of the solitary wave. Theory of shoaling oscillatory waves: Am. Geophys. Union Trans., v. 38, p. 56-61.

- 776. Inman, D. L., and Nasu, N., 1956, Orbital velocity associated with wave action near the breaker zone: U. S. Beach Erosion Board Tech. Memo. 79.
- Ippen, A. T., and Kulin, G., 1954, The shoaling and breaking of the solitary wave:
   Coastal Engineering, Proc. Fifth Conf.,
   p. 27-47.
- 778. Isaacson, E., 1950, Water waves over a sloping bottom: Comm. Appl. Math., v. 3, p. 11-31.
- 779. Iverson, H. W., 1952, Laboratory study of breakers: Natl. Bureau Stand. Circ. 521.
- 780. Iverson, H. W., 1952, Waves and breakers in shoaling water: Coastal Engineering, Proc. Third Conf., p. 1-12.
- 781. Iverson, H. W., (No date), Discussion of results from studies of wave transformation in shoaling water: Berkeley, Calif., Eng. Foundation Tech. Rept. 3, no. 331.
- 782. Iverson, H. W., Crooke, R. C., Larocco, M. J. and Wiegel, R. L., 1950, Beach slope effect on breakers and surf forecasting: Berkeley, Calif., Eng. Foundation, Tech. Rept. 155-38.
- 783. Jeffreys, H., 1944, Note on the offshore bar problem and reflection from a bar: Great Brit. Ministry of Supply, Wave Rept. 3.
- 784. John, F., 1948, Waves in the presence of an inclined barrier: Comm. Appl. Math., v. 1, p. 149-200.
- 785. Johnson, J. W., 1945, Generalized diagram for forecasting breaker and surf on a straight beach of infinite length: Berkeley, Calif., Eng. Foundation Tech. Rept. HB-116-13, 4 p.
- 786. Johnson, J. W., and Wiegel, R. L., 1953, Summary of research on waves, surf, and beaches: Berkeley, Calif., Eng. Foundation Tech. Rept. 3, no. 350.
- 787. Keller, J. B., 1949, The solitary wave and periodic waves in shallow water: New York Acad. Sci. Ann., v. 51, p. 345-350.
- 788. Kondratyev, N. Y., 1950, The transformation of the waves in shallow water at gradually decreasing depth: Trudy Gos. Gidrolog. Instituta, no. 22.

- 789. Kondratyev, N. Y., 1951, Losses of wave energy in shallow waters: Trudy Gos. Gidrolog. Instituta, no. 28.
- 790. Kusnezov, P. A., 1944, Methods of approximate calculation of the measurements of waves in proximity of the shore: Leningrad.
- 791. Longinov, V. V., 1954, The distribution of velocities near the bottom in the area of the shore: Trudy Instituta Okeanologii AN/SSSR, v. 10.
- 792. Longinov, V. V., 1957, Some observations of the deformation of waves in the shore area under natural conditions: Trudy Instituta Okeanologii AN/SSSR, v. 21.
- 793. Longinov, V. V., 1958, Data gathered while observing the horizontal pressure of waves in the bottom layer of the shore zone under natural conditions: Trudy Instituta Okeanologii AN/SSSR, v. 28.
- 794. Mason, M. A., 1950, The transformation of waves in shallow water: Coastal Engineering, Proc. First Conf., p. 22-32.
- 795. Morison, J. R., and Crooke, R. C., 1953, The mechanics of deep water, shallow water, and breaking waves: U. S. Beach Erosion Board Tech, Memo. 40.
- 796. Munk, W. H., 1945, Supplement to breakers and surf, principles in forecasting: Scripps Inst. Oceanog., unpub. wave rept., no. 49.
- 797. Munk, W. H., 1949, The solitary wave theory and its application to surf problems: New York Acad. Sci. Ann., v. 51, p. 376-401.
- 798. Munk, W. H., and Sargent, M. C., 1948, Adjustment of Bikini Atoll to ocean waves: Am. Geophys. Union Trans., v. 29, p. 855-860.
- 799. Munk, W. H. and Sverdrup, H. U., 1946, Theoretical and empirical relations in forecasting breakers and surf: Am. Geophys. Union Trans., v. 27, p. 828-836.
- 800. O'Brien, M. P., 1946, The causes of plunging and spilling breakers: Berkeley, Calif., Eng. Foundation Tech. Rept., HE 116-192, 3 p.
- O'Brien, M. P., 1949, The causes of plunging and spilling breakers: U. S. Beach Erosion Board Bull., v. 3, p. 7-10.

- 802. O'Brien, M.P., and Johnson, J.W., 1947. Wartime research on waves and surf: Mil. Engineer, v. 39, p. 239-242.
- 803. Putnam, J. A., 1949, Loss of wave energy due to percolation in a permeable sea bottom: Am. Geophys. Union Trans., v. 30, p. 349-356.
- 804. Putnam, J. A., and Johnson, J. W., 1949, The dissipation of wave energy by bottom friction: Am. Geophys. Union Trans., v.30, p. 67-74.
- 805. Reid, R. O., 1956, Approximate response of water level on a sloping shelf to a wind fetch which moves towards shore: U. S. Beach Erosion Board Tech. Memo. 83.
- 806. Roseau, M., 1951, Wave motion of the sea at a beach: C.-R. Acad. Sci., v. 231, p. 1212-1214.
- 807. Savage, R. P., 1959, Laboratory data on wave run-up on on roughened and permeable slopes: U. S. Beach Erosion Board Tech. Memo. 109.
- 808. Savage, R. P., and Rayner, A. C., 1953, Laboratory study of wave energy losses by bottom friction and percolation: U. S. Beach Erosion Board Tech. Memo. 31.
- 809. Saville, T., Jr., 1952, Wind set-up and waves in shallow water: U. S. Beach Erosion Board Tech. Memo 27.
- 810. Scripps Institute of Oceanography, 1944, Effect of bottom slope on breaker characteristics as observed along the Scripps Institute Pier: Scripps Inst. Oceanography, Wave Report no. 24, 10 p.
- 811. Scripps Institute of Oceanography, 1944, Waves in shallow water: Change in wave height along the Scripps Institute Pier with special emphasis on breaker characteristics: Scripps Inst. Oceanography, Wave Rept. no. 1, 9 p.
- 812. Scripps Institute of Oceanography, 1945, Supplement to breakers and surf: Scripps Inst. Oceanography, Wave Rept. No. 49, 19 p.
- 813. Sibul, O. J., 1955, Laboratory study of the generation of wind waves in shallow water: U. S. Beach Erosion Board Tech. Memo. 72.
- 814. Silvester, R., 1962, Coastal processes: Nature,

- v. 196, p. 819-820.
- 815. Stelzenmuller, W. B., 1941, A model study of waves on a sloping bottom: Univ. Calif., M. S. Thesis.
- 816. Stoker, J. J., Jr., 1949, The breaking of waves in shallow water: New York Acad. Sci. Ann., v. 51, p. 360-375.
- 817. Sverdrup, H. U., and Munk, W. H., 1946,
  Theoretical and empirical relations in forecasting breakers and surf: Am. Geophys.
  Union Trans., v. 27, p. 828-836.
- U. S. Hydrographic Office, 1945, Breakers and surf, principles in forecasting: U. S. Navy H. O. Pub. 284, 52 p.
- 819. Waterways Experiment Station, 1947, Model study of wave and surge action, Naval Operating Base, Terminal Island, San Pedro, California: W. E. S. Tech. Memo. 2-237.
- 820. Waterways Experiment Station, 1947, Waves and surge action, Point Fermin Naval Supply Depot, San Pedro, California; Model investigation: W. E. S. Tech. Memo. 2-238.
- 821. Waterways Experiment Station, 1949, Wave and surge action, Long Beach Harbor, California; Model investigation: W. E. S. Tech. Memo. 2-265.
- 822. Waterways Experiment Station, 1949, Wave and surge action, Monterey Harbor, California: W. E. S. Tech. Memo. 2-301.
- 823. Wiegel, R. L., 1950, Experimental study of surface waves in shoaling water: Am. Geophys. Union Trans., v. 31, p. 377-385.
- 824. Wiegel, R. L., and Fughs, R. A., 1955, Wave transformation in shoaling water: Am. Geophys. Union Trans., v. 36, p. 975-984.
- 825. Yu, Y. Y., 1952, Breaking of waves by an opposing current: Am. Geophys. Union Trans., v. 33, p. 39-41.

#### II. B. 2. SHOALING AND BREAKING WAVES, WAVE REFRACTION

- 826. Arthur, R. S., 1950, Refraction of shallow water waves; the combined effect of currents and underwater topography: Am. Geophys. Union Trans., v. 31, p. 549-552.
- 827. Arthur, R. S., 1953, Calculation of refraction factor along a wave ray: U. S. Beach Erosion Board Bull., v. 7, p. 1-12.
- 828. Bascom, W. N., 1954, The control of stream outlets by wave refraction: Jour. Geology, v. 62, p. 600-604.
- Caldwell, J. M., 1949, Reflection of solitary waves: U. S. Beach Erosion Board Tech. Memo. 11.
- 830. Chien, N., 1954, Ripple tank studies of wave refraction: Am. Geophys. Union Trans., v. 35, p. 897-904.
- Bunham, J. W., 1950, Refractions and diffraction diagrams: Coastal Engineering, Proc. First Conf., p. 33-49.
- 832. Edmondson, W. T., 1949, Wave action and effects of refraction: Jour. Am. Shore and Beach Preserv. Assn., v. 17, p. 35-36.
- 833. Forrest, D. R., 1951, Comparison of observed wave direction with a refraction diagram:
  U. S. Board Erosion Board Bull., v. 5,
  p. 24-25.
- 834. Isaacs, J. D., 1944, Memorandum on drawing refraction diagrams directly by orthogonals:
  Berkeley, Calif., Eng. Foundation, Rept.
  HE-116-47.
- Johnson, J. W., 1947, The refraction of surface waves by currents: Am. Geophys. Union Trans., v. 28, p. 867-874.
- 836. Johnson, J. W., 1951, Generalized wave diffraction diagrams: Coastal Engineering, Proc. Second Conf., p. 6-23.
- Johnson, J. W., O'Brien, M. P., and Isaacs, J. D., 1948, Geographical construction of wave refraction diagrams: U. S. Hydrographic Off. Pub. No. 605, 45 p.
- 838. Kaplan, K., 1952, A method for drawing orthogonals seaward from shore, a discussion: U. S. Beach Erosion Board Bull., v. 6, p. 18-21.

- Kondratyev, N. Y., 1952, Breaking-up of the waves at partial refraction: Trudy Gos. Gidrolog. Instituta, no. 35.
- 840. Longuet-Higgins, M. S., 1956, The refraction of sea waves in shallow water: Jour. Fluid Mechanics, v. 1, p. 163-176.
- 841. Longuet-Higgins, M. S., 1957, On the transformation of a continuous spectrum by refraction: Cambridge Philos, Soc., v. 53, p. 226-229.
- 842. Munk, W. H., and Author, R. S., 1951, Wave intensity along a refracted ray: Natl. Bur. Standards, Symposium on Waves.
- 843. O'Brien, M. P., 1950, Wave refraction at Long Beach and Santa Barbara, California: U. S. Beach Erosion Board Bull., v. 4, p. 1-4.
- 844. Palmer, R. Q., 1957, Wave refraction plotter: U. S. Beach Erosion Board Bull., v. 11, p. 13-16.
- 845. Palmer, R. Q., 1963, Nomograph for determining product of shoaling and refraction coefficients for use in wave analysis:
  U. S. Beach Erosion Board Bull., v. 17, p. 62-63.
- 846. Pierson, W. J., Jr., 1950, The interpretation of crossed orthogonals in wave refraction phenomena: U. S. Beach Erosion Board Tech. Memo. 21.
- 847. Saville, T., Jr., 1951, A method of drawing orthogonals seaward from shore: U. S. Beach Erosion Board Bull., v. 5, p. 1-6.
- 848. Saville, T., Jr., and Kaplan, K., 1952, A new method for graphical construction of wave refraction diagrams: U. S. Beach Erosion Board Bull., v. 6, p. 23-34.
- 849. Unna, P. J. H., 1946, Wave energy: sideways flow and losses by the shore: Nature, v. 158, p. 635-636.
- 850. Wiegel, R. L., and Arnold, A. L., 1957. Model study of wave refraction: U. S. Beach Erosion Board Tech. Memo. 103.
- 851. Williams, E. A., and Isaacs, J. D., 1952, The refraction of groups and of the waves which they generate in shallow water: Am. Geo-

## II. B. 3. SHOALING AND BREAKING WAVES, LITTORAL CURRENTS

- 852. Brennan, J. F., and Meaux, R. P., 1964, Observations of the nearshore water circulation off a sand beach: U. S. Naval Postgraduate School Thesis, Monterey, Calif.
- 853. Davis, W. M., 1925, The "undertow": Science, v. 62, p. 33.
- 854. Haight, F. J., 1942, Coastal currents along the Atlantic Coast of the United States: U.S. Coast and Geodetic Survey Publ., no. 230, U. S. Dept. of Commerce, Washington, D.C.
- 855. Harris, R. A., 1907, Currents, shallow-water tides, meteorological tides, and miscellaneous matters: Manual of Tides, Part V, Report Superintendent Coast and Geodetic Survey, Appendix 6, Washington, D. C.
- Hennebique, J. J., 1934, Littoral drift: Civil Eng., v. 4, p. 159-161.
- Inman, D. L., and Quinn, W. H., 1951,
   Currents in the surf zone: Coastal Engineering, Proc. Second Conf., p. 24-36.
- 858. Isaacs, J. D., 1945, Littoral currents at Estero Bay: Berkeley, Calif., Eng. Foundation Tech. Rept. HE-116-132, 6 p.
- 859. McKenzie, P., 1958, Rip-current systems: Jour. Geology, v. 66, p. 103-113.
- Miyazaki, M., 1949, On the directivity of the current rips: Oceanogr. Mag., v. 1, p. 133-134.
- 861. Munk, W. H., and Traylor, M. A., 1945, Forecasting longshore currents: Scripps Inst. Oceanography, Wave Rept. 46, 7 p.
- Putnam, J. A., Munk, W. H., and Traylor, M. A., 1948, An investigation of longshore currents: Berkeley, Calif. Eng. Foundation

- Tech. Rept. HE-116-279, 11 p.
- Putnam, J. A., Munk, W. H., and Traylor, M. A., 1949, The prediction of longshore currents: Am. Geophys. Union Trans., v. 30, p. 337-345.
- 864. Scripps Institute of Oceanography, 1945, Longshore currents: Scripps Inst. Oceanography Wave Rept. 40, 12 p.
- 865. Shepard, F. P., 1936, Undertow, rip tide or "rip currents.": Science, v. 84,p. 181-182.
- 866. Shepard, F. P., 1950, Longshore current observations in southern California: U. S. Beach Erosion Board Tech. Memo. 13.
- Shepard, F. P., Emery, K. O., and La Fond,
   E. C., 1941, Rip currents: A process of geological importance: Jour. Geology,
   v. 49, p. 337-369.
- Shepard, F. P., and Inman, D. L., 1950,
   Nearshore circulation: Coastal Engineering,
   Proc. First Conf., p. 50-59.
- 869. Shepard, F. P., and La Fond, E. C., 1939, Undertow: Science, v. 89, p. 78-79.
- 870. Shepard, F. P., and Sayner, D. B., 1953, Longshore and coastal currents at Scripps Institute Pier: U. S. Beach Erosion Board Bull., v. 7, p. 1-9.
- 871. Stevenson, C. D., 1964, A study of currents in southern Monterey Bay: U. S. Naval Post graduate School Thesis, Monterey, Calif.
- 872. Van Straaten, L. M. J. U., 1961, Directional effects of winds, waves and currents along the Dutch north sea coast: Geologie En Mijnbouw, 40e Jaargang, p. 333-346.

## II. C. BEACH AND NEARSHORE PROCESSES, TIDES AND TIDAL CURRENTS

- Agnew, R., 1960, Estuarine currents and tidal streams: Coastal Engineering, Proc. Seventh Conf., p. 510-535.
- Charnock, H., 1959, Tidal friction from currents near the sea bed. Geophysical
   Journal Royal Astronomical Society, v. 2,
   p. 215-221.

- 875. Chase, J., 1954, A comparison of certain North
  Atlantic wind, tide-gauge and current data:
  Jour, Marine Research, v. 13, p. 22-31.
- 876. Disney, L. P., 1955, Tide heights along the coasts of the United States: Am. Soc. Civil Engineers, Proc., v. 81, p. 666-1-666-9.
- 877. Finnegan, H. E., 1951, Some significant characteristics of the tide: Shore and Beach, v. 19, p. 14-16.
- 878. Finnegan, H. E., 1953, Significant aspects of the tides: The Science Counselor, v. 16, p. 16-20.
- 879. Keulegan, G. H., and Hall, J. V., Jr., 1950, A formula for the calculation of the tidal discharge through an inlet: U. S. Beach Erosion Board Bull., v. 4, p. 15-29.
- 880. McKay, E. C., 1955, The tidal movement and its prediction: Shore and Beach, v. 23, p. 17-20.
- 881. Marmer, H. A., 1943, Tide observations at Baltimore, and the problem of coastal stability: Geog. Rev., v. 33, p. 620-629.
- Marmer, H. A., 1951, Tidal datum planes:
   U. S. Coast and Geodetic Survey, Sp. Pub.,
   no. 135, 142 p.
- 883. Nishimura, E., 1950, On earth tides: Am.

- Geophys. Union Trans., v. 31, p. 357-376.
- Redfield, A. C., The analysis of tidal phenomena in narrow embayments: Phys. Oceanography and Meteorology Paper, v. 11, 36 p.
- Schuremen, P., Tide and current glossary:
   U. S. Coast and Geodetic Survey Spec. Pub. 228.
- 886. Sibul, O. J., 1955, Laboratory study of wind tides in shallow water: U.S. Beach Erosion Board Tech. Memo. 61.
- 887. Sibul, O. J., and Johnson, J. W., 1957, Laboratory study of wind tides in shallow water: Am. Soc. Civil Engineers, Waterways Harbors Div. Jour., v. 83, p. 1210-1232.
- 888. U. S. Army, 1950, Tides: U. S. Army, Corps of Engineers, Committee on Tidal Hydraulics, Rept. No. 1.
- 889. U. S. Department of Commerce, 1941, Manual of tide observations: U. S. Coast and Geodetic Survey, Washington, D. C.
- U. S. Department of Commerce, 1961, Tidal currents: U. S. Coast and Geodetic Survey, Washington, D. C.
- 891. Whitney, P. C., 1935, Tidal action on shore line: Shore and Beach, v. 3, p. 16-18.

# II.D. BEACH AND NEARSHORE PROCESSES, STORMS AND HURRICANES

- 892. Abdullah, A. J., 1953, On the dynamics of hurricanes: New York Univ. Col. Eng. Meteorol. Papers, v. 2, No. 2, 43 p.
- Bretschneider, C. L., 1959, Hurricane designwave practices: Am. Soc. Civil Engineers Trans., v. 124, p. 39-62.
- 894. Bretschneider, C. L., 1959, Hurricane surge predictions for Chesapeake Bay: U. S. Beach Erosion Board, Misc. Paper No. 3-59.
- Cline, I. M., 1926, Tropical cyclones: New York, MacMillan Co., 291 p.
- Cline, I. M., 1933, Tides and coastal currents developed by tropical cyclones: Monthly Weather Review, v. 61, p. 36-38.
- 897. Conner, W. C., Kraft, R. H., and Harris,

- D. L., 1957, Empirical methods for forecasting the maximum storm tide due to hurricanes and other tropical storms: Monthly Weather Review, v. 85.
- 898. Corkan, R. N., 1948, Storm surges, their importance in modern tidal science and some results of a recent investigation: Dock and Harbour, v. 28.
- Darbyshire, J., 1955, An investigation of storm waves in the North Atlantic ocean: Royal Soc. London, A, Proc., v. 230, p. 560-569.
- Dorrestein, R., 1960, Wave set-up on a beach: Am. Meteor. Soc., Natl. Hurricane Res. Proj. Preprint Serv.
- 901. Dunn, G. E., 1957, Hurricanes and hurricane tides: Coastal Engineering Proc. Sixth Conf.,

- p. 19-29.
- 902. Graham, H. E., and Nunn, D. E., 1959, Meteorological considerations pertienet to standard project hurricane, Atlantic and Gulf Coasts of the United States: U. S. Weather Bur. Natl. Hurricane Res. Proj. Rept. no. 33.
- Harris, D. L., 1957, The hurricane surge: Coastal Engineering, Proc. Sixth Conf., p. 96-114.
- 904. Harris, D. L., 1958, Meteorological aspects of storm surge generation: Hydrol. Div. Jour., Am. Soc. Civil Engineers Proc., Paper 1859, v. 84, No. Hy. 7, p. 1-25.
- 905. Horrer, P. L., 1950, Southern hemisphere swell and waves from a tropical storm at Long Beach, California: U. S. Beach Erosion Board Bull., v. 4, p. 1-18.
- 906. Kaplan, K., and Saville, T., Jr., 1954, Comparison of hindcast and observed waves along the northern New Jersey Coast for the storm of November 6-7, 1953: U. S. Beach Erosion Board Bull., v. 8, p. 13-17.
- Lundbak, A., 1955, The North Sea storm surge of February 1, 1953. Its origin and development: Geografisk Tidsskrift be. 54, Kobenhavn. Also published in: Meddelelser fra Skalling-Laboratoriet bd. XV, Kobenhavn 1957.
- 908. Magnuson, N. C., 1958, The hurricane floods in the Carolinas: U. S. Army Engineers, Wilmington, N. C., unpubl.

- 909. Reynolds, G., 1953, Storm surge reserach: Weather, v. 8, p. 101-107.
- Riehl, H., and Schaeffer, R. J., 1944, The recurvature of tropical storms: Jour. Meteorology, v. 1, p. 42-54.
- 911. Robinson, A. H. W., 1953, The storm surge of 31st January 1st February 1953, and the associated meteorological and tidal conditions: Geography, v. 38, p. 134-141.
- 912. Savage, R. P., 1957, Model tests of wave runup for hurricane protection project: U. S. Beach Erosion Board Bull., v. 11, p. 1-12.
- 913. Stewart, J. Q., 1962, The Great Atlantic Coast Tides of 5-8 March 1962: Weatherwise, v. 15, p. 117-120.
- 914. Tannehill, I. R., 1944, Hurricanes: Princeton, Princeton Univ. Press., 269 p.
- 915. Tickner, E. G., 1957, Effect of bottom roughness on wind tide in shallow water: U.S.

  Beach Erosion Board Tech. Memo. 95.
- Todd, D. K., and Wiegel, R. L., 1952, Near coastal storms and associated waves: Am. Geophys. Union Trans., v. 33, p. 217-225.
- 917. Weather Bureau, Department of Commerce, 1962, East coast Atlantic storm: Shore and Beach, v. 30, p. 4-9.
- 918. Wilson, B. W., 1960, The prediction of hurricane storm-tides in New York Bay: U. S. Beach Erosion Board Tech. Memo. 120.

# II. E. BEACH AND NEARSHORE PROCESSES, AEOLIAN PROCESSES

- Bagnold, R. A., 1937, The transport of sand by wind: Geog. Jour., v. 89, p. 407-438.
- Bagnold, R. A., 1941, Physics of blown sand and desert dunes: Wm. Morrow & Co., N.Y. 265 p.
- Belly, Pierre-Yves, 1964, Sand movement by wind: U. S. Eng. Research Center, Tech. Memo. 1.
- 922. Egorov, E. N., 1952, The influence of wind on the morphology of sandy shores: Izvestiya AN/SSSR, Seriya Geogr., no. 3.
- 923. Egorov., E. N., 1953, Importance of aeolian processes for the dynamics of a low-lying coast of accumulation: Trudy Instituta Okeanologii AN/SSSR, v. 7.
- Ford, E. F., 1957, The transport of sand by wind: Am. Geophys. Union Trans., v. 38, p. 171.
- 925. Horikawa, D., and Shen, H.W., 1960, Sand movement by wind action (on the characteristics of sand traps): U. S. Beach Erosion Board Tech. Memo. 19.

- 926. Kuhlman, H., 1957, Sand drift and dune formation in relation to wind velocity: Geografisk Tiddskrift be. 56, Kobenhav. Also published in: Meddlelser fra Skalling-Laboratoriet, bd. 16, Kobenhavn 1959.
- 927. Kuhlman, H., 1958, Quantitative measurements of aeolian sand transport: Geografisk Tidsskrift be. 57, Kobenhavn. Also published in
- Meddelelser fra Skalling-Laboratoriet bd. 16, 1959.
- Mason, M. A., 1950, The wind element in beach erosion: U. S. Beach Erosion Board, v. 4, p. 19-23.
- 929. O'Brien, M. P., and Rindlaub, B. D., 1936, The transportation of sand by wind: Civil Engineering, v. 6, p. 325-327.

## II. F. BEACH AND NEARSHORE PROCESSES, MEASUREMENT TECHNIQUES

- 930. Barber, N. F., 1954, Finding the direction of travel of sea waves: Nature, v. 174, p. 1048.
- Beach Erosion Board, 1948, An ocean wave measuring instrument: U. S. Beach Erosion Board Tech. Memo. 6.
- 932. Beach Erosion Board, 1952, Description and operating instructions for wave gage WH-1: U. S. Beach Erosion Board Bull., v. 6, p. 1-2.
- 933. Beach Erosion Board, 1952, Laboratory study of an electromagnetic current meter: U. S. Beach Erosion Board Bull., v. 6, p. 19-22.
- 934. Beach Erosion Board and Bureau of Reclamation,
  Denver Colorado, 1954, Tidal current meter:
  U. S. Beach Erosion Board Bull., v. 8,
  p. 1-8.
- Caldwell, J. M., 1948, An ocean wave measuring instrument: U. S. Beach Erosion Board Tech. Memo. 6.
- 936. Carruthers, J. N., 1961, A simple currentmeasuring bottle for fishermen: Fishing News.
- 937. Carruthers, J. N., 1962, The easy measurement of bottom currents at modest depths: Civil Engineering and Public Works Review.
- 938. Chang, S. S., 1955, A magnetic tape wave recorder and energy spectrum analyzer for the analysis of ocean wave records: U. S. Beach Erosion Board Tech. Memo. 58.
- 939. Corps of Engineers, U.S. Army, 1952, Hydraulic design-waves and wave pressures: Engineering Manual for Civil Works, Part 116, Chap. 8.
- 940. Cox, R. A., 1957, An improved salinity and density meter: Jour. Cons. Int. Explor.

- Mer. 23, p. 38-46.
- Draper, L., 1961, Wave-recording instruments for civil engineering use: Conference on wave recording for Civil Engineers Proc., National Inst. Oceanog., p. 7-17.
- 942. Farmer, H. G., and Ketchum, D. D., 1960, An instrumentation system for wave measurements, recording and analysis: Coastal Engineering Proc. Seventh Conf., p. 77-99.
- 943. Farmer, H. G., Marks, W., Walden, R. G., and Whittney, G. G., 1955, A technique for ocean wave measurements: First Conf. Ships and Waves Proc. Oct. '54, Counc. Waves Res. and Soc. Naval Arch. and Mar., p. 11-52.
- Folsom, R. G., 1949, The measurement of ocean waves: Am. Geophys. Union Trans., v. 30, p. 691-699.
- Forrest, D. R., 1950, A method of estimating wave direction: U. S. Beach Erosion Board Bull., v. 4, p. 31-40.
- 946. Gerhardt, J. R., Jehn, K. H., and Katz, I., 1955, A comparison of step-, pressure-, and continuous wire-gage wave recordings in the Golden Gate channel: Am. Geophys. Union Trans., v. 36, p. 235-250.
- 947. Hall, J. V., Jr., 1950, The rayleigh disk as a wave direction indicator: U. S. Beach Erosion Board Tech. Memo. 18.
- 948. Isaacs, J. D., and Wiegel, R. L., 1950, The thermopile wave meter: Am. Geophys. Union Trans., v. 31, p. 711-716.
- Iversen, H. W., 1945, Sighting bar for observations of breaker height and distance to breakers: Berkeley, Calif., Eng. Foundation

- Fluid Mech. Lab. Tech. Rept. HE-116-42.
- 950. Jacobson, A. W., 1948, An instrument for recording continuously the salinity, temperature, and depth of water: Am. Inst. Electrical Engineers Trans., v. 67, 1, 714-722.
- 951. Johnson, J. W., 1944, Surf observations by ground photographs: Berkeley, Calif. Eng. Foundation, Fluid Mech. Lab. Tech. Rept. HE-116-96.
- 952. Kellum, F. W., 1956, An electronic gage for measurement of small waves and ripples: U. S. Beach Erosion Board Bull., v. 10, p. 32-40.
- 953. Klebba, A. A., 1949, Details of shore based wave recorder and ocean wave analyzer:

  New York Acad. Sci. Ann., v. 51, p. 533-544.
- 954. Levchenko, S. P., 1956, Research done with the electro-contact wave recorder: Trudy Morskogo Gidrofisicheskogo Instituta, v. 8.
- 955. McAdam, D., 1947, Measurements of breaker heights by the use of an aerial camera: Berkeley, Calif., Eng. Foundation, Fluid Mech. Lab. Tech. Rept. HE-116-244.
- 956. Marks, W., and Ronne, F. C., 1955, Aerial stero-photography and ocean waves: Photogrammetric Eng. p. 107-113.
- 957. Morey, B. F., 1945, The analysis of aerial

- photographs for wave length, height of breakers period, and stage of tide: Berkeley, Calif., Eng. Foundation, Fluid Mech. Lab. Tech. Rept. HE-116-102.
- 958. Rockwell, J., 1961, editor, Interagency committee on oceanography of the federal council for science and technology, United States of America: Government-Industry Oceanography Instrumentation Symposium Proc., August 16-17.
- 959. Scripps Institute of Oceanography, 1944,
  Method of determining depth in shallow water
  from aerial photographs (wave velocity
  method): Scripps Inst. Oceanography, Rept.
  No. 1, 9 p.
- 960. Snodgrass, F. E., 1950, Wave recorders:
  Coastal Engineering, Proc. First Conf.,
  p. 69-82.
- Snodgrass, F. E., 1952, Wave measurements:
   Natl. Acad. Sci., Pub. 309, p. 139-165.
- Tucker, M. J., 1956, The NIO wave analyzer: Coastal Engineering, Proc. First Conf., p. 129-133.
- 963. Waterways Experiment Station, 1940, Automatic measurement of waves: Hydrol. Ser. Bull., v. 3.
- 964. Waterways Experiment Station, 1940, Measurement of littoral currents: Hydrol. Ser. Bull., v. 3.

## III. COASTAL ENGINEERING

## III. A. GENERAL COASTAL AND BEACH ENGINEERING

- 965. Anonymous, 1957, The basic coastal model: Hydraulics Research, p. 33-36.
- 966. Anonymous, 1958, Basic coastal model: Hydraulics Research, p. 52-54.
- 967. Anonymous, 1959, Basic coastal model: Hydraulics Research, p. 55-60.
- Beach Erosion Board, 1948, Methods of solution of shore problems: U. S. Beach Erosion Board Bull., v. 2, p. 8-12.
- Beach Erosion Board, 1961, Shore protection planning and design: U. S. Beach Erosion Board, Tech. Rept. 4.
- 970. Blood, H. K. W., 1949, The accretion and erosion of beaches: Jour. Civil Engineers, v. 32, p. 230-232.
- 971. Brown, E. I., 1937, The public interest in beaches: Shore and Beach, v. 5, p. 19-20.
- 972. Brown, E. I., 1938, Studies of beach erosion: Engineering News Record, v. 120.

- 973. Brown, E. I., 1939, Beach erosion studies: Shore and Beach, v. 7, p. 3-13.
- 974. Brown, E. I., 1939, Beach erosion studies: Am. Soc. Civil Engineers Proc., v. 65, p. 69-92.
- 975. Brown, E. I., 1940, Beach erosion studies: Am. Soc. Civil Engineers Proc., v. 66, p. 303-311.
- Bruun, P., 1953, Coastal protection: review of methods for defence: Dock & Harbour, v. 34, p. 217-222 and p. 233-237.
- 977. Bruun, P., 1955, Beach profiles and development of plans for coastal protection: Leaflet No. 66, Florida Eng. and Ind. Exp. Sta., Univ. Florida, Gainesville.
- 978. Bruun, P., 1955, Coastal development and coastal protection: Florida Eng. and Ind. Exp. Sta. Bull. No. 76, v. 9, Gainesville.
- 979. Bruun, P., 1955, Stability of beaches: Shore and Beach, v. 23, p. 21-26.
- 980. Bruun, P., 1957, Florida coastal problems:
  Coastal Engineering, Proc. Sixth Conf.,
  p. 463-509.
- 981. Bruun, P., 1960, Coastal research and its economic justification: Saetryk af Geografisk Tidsskrift, 59. bind, p. 33-57.
- 982. Bruun, P., 1962, Engineering aspects of sediment transport: Florida Eng. and Ind. Exp. Sta., Tech. Prog. Rept. No. 11, v. 16, No. 7, Gainesville.
- 983. Bruun, P., and Asce, F., 1962, Sea-level rise as a cause of shore erosion: Am. Soc. Civil Engineers, Waterways Harbor Div., v. 88, p. 2-15.
- 984. Caldwell, J. M., 1949, Beach erosion: Sci. Monthly, v. 59, p. 229-235.
- 985. Caldwell, J. M., 1951, Research activities of the Beach Erosion Board: Coastal Engineering, Proc. Second Conf., p. 187-194.
- 986. Caldwell, J. M., 1957, Status of research in shore line protection: U. S. Beach Erosion Board Bull., v. 11, p. 17-27.
- 987. Case, G. O., 1926, Causes of coast erosion and accretion: Surveyor, London, v. 69.

- 988. Coastal Engineering Staff, 1957, Coastal engineering investigation at Jupiter Island: Florida Eng. and Ind. Exp. Sta., Tech. Prog. Rept. No. 5, v. 11, No. 3.
- 989. Coastal Engineering Staff, 1957, Studies and recommendations for the control of beach erosion in Florida: Florida Eng. and Ind. Exp. Sta., Gainesville.
- 990. Coastal Engineering Staff, 1958, Coastal engineering study of Fort Pierce beach: Florida Eng. and Ind. Exp. Sta. Tech. Rept. No. 7, v. 12, no. 9.
- Converse, J. B., 1930, Shore and storm protection on the Gulf coast: Jour. Am. Concrete Inst., v. 1.
- 992. Currier, L. W., 1953, Geology in shoreline engineering and its application to Massachusetts beach problems: Coastal Engineering, v. 3, p. 109-118.
- 993. Dent, E. J., 1931, New study of beach erosion: Mil. Engineer, v. 23, p. 256-260.
- 994. Division of Water Survey, 1952, Beach protection in Florida: Water Survey and Research Paper 8, Tallahassee, Florida.
- 995. Dobbie, C. H., 1954, Some sea defence works in England: Coastal Engineering, Proc. Fifth Conf., p. 441-447.
- 996. Dubrow, M. D., and Rayner, A. C., 1948, Recent storm damage along the coasts: Mil. Engineer, v. 40, p. 120-124.
- 997. Duvivier, J., 1947, The problem of coast erosion: Inst. Civil Engineers, Eng. Div. Papers, Maritime Waterways Eng. Div., Paper 8, 47 p.
- Evans, O. F., 1941, Shore line formation by currents: Shore and Beach, v. 9, p. 245-248.
- 999. Fellows, C. E., 1944, Coastal protection: Civil Engineering (?), v. 39.
- 1000. Fineren, W. W., 1938, Study of beach conditions at Daytona Beach, Florida and vicinity: Florida Eng. and Ind. Exp. Sta., Bull. 4, Gaineaville.
- 1001. Gerritsen, I. F., 1956, Coastal research in the Netherlands: Shore and Beach, v. 24, p. 9-11.

- 1002. Gesler, E. E., 1953, What to expect from a beach erosion study: Shore and Beach, v. 21, p. 16-20.
- 1003. Glenn, A. H., 1950, Wave, tide, current, and hurricane problems in coastal operations: Oil and Gas. Jour., v. 48, p. 174-177, 320-322.
- 1004. Grant, U. S., 1938, Geological problems involved in the conservation of beaches: Pacific Southwest Acad. Pub. 16, p. 27-28.
- 1005. Hall, W. C., 1938, A model study of beach erosion: Univ. Calif., M.S. Thesis, 41 p.
- 1006. Hall, W. C., 1942, Beach protection measures: Mil. Engineer, v. 34, p. 292-296.
- 1007. Hall, J. V., Jr., 1963, Coastal engineering structures: U. S. Beach Erosion Board Bull., v. 17, p. 16-38.
- 1008. Handin, J. W., 1950, The geological aspects of coastal engineering: Coastal Engineering, Proc. First Conf., p. 133-136.
- 1009. Hansen, H. J., 1947, Beach erosion studies in Florida: Florida Eng. and Ind. Exp. Sta., Bull. 16, Gainesville.
- 1010. Hardin, J. R., and Booth, W. H., Jr., 1952, Lake Michigan erosion studies: Am. Soc. Civil Eng. Proc., v. 78, p. 115-1-115-13.
- 1011. Horton, D. F., 1948, An engineer looks at Waikiki Beach: U. S. Beach Erosion Board Bull., v. 2, p. 1-7.
- 1012. Horton, D. F., 1948, Shore effects of coastal structures: Mil. Engineer, v. 40, p. 402-405.
- 1013. Hoyle, J. W., and King, G. T., 1955, Longitudinal stability of beaches: The Surveyor & Municipal Engineer, London, v. 114, p. 1029-1032.
- 1014. Hoyle, J. W., and King, G. T., 1955, The lateral stability of shingle beaches: The Surveyor & Municipal Engineer, London, v. 114, p. 1159-1163.
- 1015. Hoyle, J. W., and King, G. T., 1955, The orientation of beaches: The Surveyor & Municipal Engineer, London, v. 114, p. 1179-1182.
- 1016. Hoyle, J.W., and King, G. T., 1956, The

- origin of beaches: The Surveyor & Municipal Engineer, London, v. 115, p. 837-841.
- 1017. Hunter, R. C., 1946, Report on cooperative beach erosion study at Santa Barbara, California: U. S. Army, Corps of Eng., Los Angeles, 43 p.
- 1018. Johnson, J. W., 1961, Historical photograph and the coastal engineer: Shore and Beach, v. 29, p. 18-25.
- 1019. Johnson, J. W., and Wiegel, R. L., 1952, Elements of wave theory affecting coastal engineering: Docks & Harbours, v. 33, p. 15-18.
- 1020. Karo, H. A., 1958, New state program in beach preservation: Annual Meeting, Florida Shore and Beach Preservation Association.
- 1021. Kaye, C. A., 1963, Erosion of Fire Island, N. Y.; A report prepared for the U. S. Natl. Park Serv., unpub.
- 1022. Keay, T. B., 1940, General question of coast erosion and measures desireable for prevention of damage caused thereby: Jour. Inst. Munic, and County Engineers, v. 67.
- 1023. Keay, T. B., 1942, Coast erosion in Great Britain: Shore and Beach, v. 10, p. 3-5.
- 1024. Krumbein, W. C., 1950, Geologic aspects of beach engineering: Geol. Soc. America Berkey Vol., p. 195-225.
- 1025. Lindner, C. P., 1962, Our departing shores: Shore and Beach, v. 30, p. 29-30.
- 1026. Lipp, M. N., 1936, Some data on beach protection works: Civil Eng., v. 6, p. 291-295.
- 1027. McCabe, W. W., 1937, Results of cooperation in beach protection: Shore and Beach, v. 5, p. 20-21.
- 1028. McMillan, T. S., 1937, The beach interests of South Carolina: Shore and Beach, v. 5, p. 17-19.
- 1029. Mackenzie, A. D., 1940, Coastal erosion in Victoria, Australia: Dock and Harbour, v. 20.

- 1030. Mason, M. A., 1947, The importance of shore protection studies: U. S. Beach Erosion Board Bull., v. 1, p. 13-16.
- 1031. Mason, M. A., 1950, Geology in shore-control problems: Trask, P. D., Editor, Applied Sedimentation: New York, John Wiley & Sons, 707 p.
- 1032. Mason, M. A., 1951, Pertinent factors in the protection of the Gulf coast: Coastal Engineering, Proc. Second Conf., p. 217-225.
- 1033. Minikin, R. C. R., 1948-1949, Coast protection, a survey of beach stability: Dock and Harbour, v. 29, p. 165-169, 193-198, 232-236, 251-256, 281-285, 311-314.
- 1034. Minikin, R. C. R., 1952, Coast erosion and protection: London, Chapman & Hall, 236 p.
- 1035. Minikin, R. C. R., 1954, Fundamentals of coast erosion and defense: Coastal Engineering, Proc. Fifth Conf., p.448-471.
- 1036. Nicholls, C. P. L., 1941, Sand, surf and sense: Shore and Beach, v. 9, p. 48-49.
- 1037. North Carolina Convention, 1953, American shore and beach preservation association: Shore and Beach, v. 21, p. 11-12.
- 1038. Olivieri, J. M., 1956, Beach erosion problems at the northern coast of Puerto Rico: Shore and Beach, v. 24, p. 9-11.
- 1039. Owens, J. S. and Case, G. O., 1908, Coast erosion and foreshore protection: London, the St. Bride's Press Ltd., 144 p.
- 1040. Paterson, D. E., 1956, Beach Erosion at Durban, South Africa: U. S. Beach Erosion Board Bull., v. 10, p. 11-20.
- 1041. Patton, R. S., 1941, Relation of tide to property boundaries: Shore and Beach, v. 9, p. 35-39.
- 1042. Ripley, H. C., 1924, Beach erosion, its causes and cure: Am. Assoc. Civil Engineers Proc., v. 50, p. 13-18.
- 1043. Russell, R. C. H., 1960, Coast erosion and defence: Hydraulic Res. Station, Berkshire, England, 14 p.
- 1044. Sawyer, W. L., 1956, Coastal engineering along the Florida Gulf Coast: Shore and Beach, v. 24, p. 14-16.

- 1045. Scott, W. H., 1955, Sea erosion and coast protection at Sunmer, N.Z.: New Zealand Eng., v. 10, p. 438-447.
- 1046. Silvester, R., 1960, Stabilization of sedimentary coastlines: Nature, v. 188, p. 437-469.
- 1047. Somers, P., 1952, Developments in the science of coastal engineering: U. S. Beach Erosion Board, v. 6, p. 14-19.
- 1048. Stamp, L. D., 1939, Some economic aspects of coastal loss and gain: Geog. Jour., v. 93, p. 496-503.
- 1049. Steers, J. A., 1946, Coastal preservation and planning: Geog. Jour., v. 107, p. 57-60.
- 1050. Steers, J. A., 1960, Defense against the sea: Advancement of Science, p. 7-15.
- 1051. Thorn, R. B., 1960, The design of sea defence works: London, Butterworth Sci. Publ., 102 p.
- 1052. Turner, M. D., 1956, Some geological aspects of the beaches and beach erosion in Puerto Rico: Shore and Beach, v. 24, p. 4-8.
- 1053. United States Department of Interior, National Park Service, 1954, Our vanishing shoreline: the shoreline, the survey, the area: U. S. Natl. Park Ser., Washington, D. C.
- 1054. Ward, H. A., 1948, The use of historical surveys in beach erosion studies: U. S. Beach Erosion Board Bull., v. 2, p. 13-16.
- 1055. Waterways Experiment Station, 1941, Solutions of wave action problems: Hydrol. Ser. Bull., v. 4.
- 1056. Waterways Experiment Station, 1941, Wave action problems: Hydrol, Ser. Bull., v. 4,
- 1057. Weatherwax, H. E., 1937, Seashore park construction in North Carolina: Shore and Beach, v. 5, p. 12-17.

### III. B. SPECIFIC ENGINEERING PROBLEMS

- 1058. Angas, W. M., 1960, Sand by-passing project for Shark River Inlet: Am. Soc. Civil Engineers, Waterways and Harbors Div., v. 86, paper 2599.
- 1059. Anonymous, 1936, Beach erosion at Kitty Hawk, Nags Head, and Oregon Inlet: N.C. House Document No. 155, 74th Congress, 1st Session.
- 1060. Ayers, J. R., 1952, Seawalls and breakwaters. Lessons to be learned from failures: Dock & Harbour, v. 33, p. 181-186.
- 1061. Beach Erosion Board, 1941, Beach erosion study at Coronado, California. Shore and Beach, v. 10, p. 8-11.
- 1062. Beach Erosion Board, 1948, Beach and channel improvement measures at Atlantic City, New Jersey: U. S. Beach Erosion Board Bull., v. 2, p. 7-12.
- 1063. Beach Erosion Board, 1951, Bypassing littoral drift at a harbor entrance: U. S. Beach Erosion Board Bull., v. 5, p. 1-14.
- 1064. Beach Erosion Board, Jacksonville District, 1948, Experimental steel pile groins, Palm Beach, Florida: U. S. Beach Erosion Board Tech. Memo. 10.
- 1065. Beach Erosion Board, New York District, 1949, Sand movement study at Long Beach, N. J.: U. S. Beach Erosion Board Bull., v. 3, p. 1-5.
- 1066. Blackman, B., 1950, Dredging at inlets on sandy coasts: Coastal Engineering, Proc. First Conf., p. 169-174.
- 1067. Bretschneider, C. L., 1958, Engineering aspects of hurricane surge: Am. Meteorological Society, Tech. Conf. on Hurricanes, Proc., Miami, Florida.
- 1068. Bretting, A. E., 1958, Stable channels: Florida Eng. and Ind. Exp. Sta. Tech. Paper No. 144, v. 12, no. 7, Gainesville.
- 1069. Brown, E. I., 1940, Erosion control at Wrightsville Beach: Shore & Beach. v. 8, p. 122-124.
- 1070. Bruun, P., 1954, Use of small-scale experiments with equilibrium profiles in studying

- actual problems and developing plans for coastal protection: Am. Geophys. Union Trans., v. 35, p. 445-452.
- 1071. Bruun, P., 1959, Bay-fills and bulkhead lines: Florida Eng. and Ind. Exp. Sta. Leaflet No. 105, v. 13, no. 3, Gainesville.
- 1072. Bruun, P., (no date), Impermeable and permeable groins: Unpublished Report, Coast. Eng. Lab., Univ. of Florida. 3 p.
- 1073. Bruun, P., Asce, F., and Gerritsen, F., 1959, Natural by-passing of sand at coastal inlets: Am. Soc. Civil Engineers, Waterways and Harbors Div., v. 85, p. 75-107.
- 1074. Bruun, P., and Gerritsen, F., 1960, Stability of coastal inlets: Coastal Engineering, Proc. Seventh Conf., p. 386-417.
- 1075. Bruun, P., Leendertse, J. J., and Cover, L. W., 1958, Florida's coastal engineering wave tank: Florida Eng. and Ind. Exp. Sta. Leaflet No. 99, v. 12, no. 7, Gainesville.
- 1076. Caldwell, J. M., 1950, By-passing sand at South Lake Worth Inlet, Florida: Coastal Engineering, Proc. First Conf., p. 320-325.
- 1077. Carr, J. H., 1951, Mobile breakwaters: Coastal Engineering, Proc. Second Conf., p. 281-295.
- 1078. Carruthers, J. N., 1954, A penetrometer for use on water-covered beaches: Jour. Marine Biol. Assoc., v. 33, p. 637-643.
- 1079. Cavanilles, R. I., and Olano, C. N., 1951, Generalization of the formula for calculation of rock full dikes and verification of its coefficients: U. S. Beach Erosion Board Bull., v. 5, p. 4-24.
- 1080. Chien, N., 1956, Sediment motion at the vicinity of a littoral barrier: U. S. Beach Erosion Board Bull., v. 10, p. 21-31.
- 1081. Cole, G., 1960, The use of certain plants as stabilizers of marine sediments: Jour. Inst. Water Eng., v. 14, p. 445-453.
- 1082. Cox, R. G., 1958, Velocity forces on submerged rocks: U. S. Army Eng. Waterways Experiment Sta., Misc. Paper 2-265.

- 1083. Crooke, R. C., 1956, Re-analysis of existing wave force data on model piles: U. S. Beach Erosion Board Tech. Memo. 71.
- 1084. Davis, J. H., 1957, Dune formation and stabilization by vegetation and plantings: U. S. Beach Erosion Board Tech. Memo. 101.
- 1085. Deignan, J. E., 1959, Breakwater at Crescent City, California: Am. Soc. Civil Engineers Proc., Waterways and Harbors Div., v.85, paper 2174.
- 1086. Dorland, G. M., 1940, Equilibrium sand slopes in front of sea walls: Univ. Calif. M. S. Thesis, 43 p.
- 1087. Dune Study Group (no date), Facts in evidence, resulting from the reduction of the data gathered by the initial field study on Bodie Island: Cape Hatteras Natl. Seashore Rec. Area, Unpub. report.
- 1088. Escoffier, F. F. and Dolive, W. L., 1954, Shore protection in Harrison County, Mississippi: U. S. Beach Erosion Board Bull., v. 8, p, 1-12.
- 1089. Feltner, C. E., 1948, Beach erosion in North Carolina: Dept. Eng. Res., Bull. No. 37, N. C. State College Record, v. 47.
- 1090. Gesler, E. E., 1951, Economics of coastal structures: Coastal Engineering, Proc. Second Conf., p. 236-242.
- 1091. Gilman, C. S., and Myers, V. A., 1961, Hurricane widns for design along the New England coast: Am. Soc. of Civil Eng. Proc., Waterways and Harbors Div., v. 87, p. 45-65.
- 1092. Hall, J. V., Jr., 1952, Artificially nourished and constructed beaches: U. S. Beach Erosion Board Tech. Memo. 29.
- 1093. Hall, J. V., Jr., and Herron, J. W., 1950, Test of nourishment of the shore by offshore deposition of sand: U. S. Beach Erosion Board Tech. Memo. 17.
- 1094. Hall, J. V., Jr., and Jachowski, R. A., 1964, Concrete block revetment near Benedict, Maryland: U. S. Army Corps of Engineers, Misc. paper no. 1-64.
- 1095. Hall, M. A., 1958, Laboratory study of breaking wave forces on piles: U. S.

- Beach Erosion Board Tech. Memo. 106.
- 1096. Hall, W. C., 1941, A model study of effect of submerged breakwaters on wave action: Shore and Beach, v. 9, p. 50-55.
- 1097. Handin, J. W., and Ludwick, J. C., 1949, Accretion of beach sand behind a detached breakwater: U. S. Beach Erosion Board Tech. Memo. 16.
- 1098. Harris, R. L., 1954, Restudy of test-shore nourishment by offshore deposition of sand, Long Branch, New Jersey: U. S. Beach Erosion Board Tech. Memo. 62.
- 1099. Haynes, R. F., 1958, Marine site investigations. Methods of boring, sampling and rock drilling: Dock & Harbour, v. 39, p. 145-150.
- 1100. Hazlett, D. C., 1950, Beach erosion control at Cape Hatteras, North Carolina: Geol. Soc. America Bull., v. 49, p. 160.
- 1101. Hodges, T. K., 1955, Sand by-passing at Hillsboro Inlet, Florida: U. S. Beach Erosion Board Bull., v. 9, p. 1-6.
- 1102. Horton, D. F., 1950, Design and construction of groins: Coastal Engineering, Proc. First Conf., p. 246-253.
- 1103. Hoyle, J. W. and King, G. T., 1961, A scientific basis for design of groyne systems: The Survey & Municipal Engineer, London, v. 120, p. 619-621.
- 1104. Hoyle, J. W. and King, G. T., 1962, Coast protection-groyne systems: The Surveyor Municipal Engineer, London, v. 121, p. 575-579.
- 1105. Hoyle, J. W., and King, G. T., 1962, Groynes as barriers to movement of beach material: The Surveyor Municipal Engineer, London, v. 121, p. 601-603.
- 1106. Hudson, R. Y., and Moore, L. F., 1950, The Hydraulic Model as an aid in breakwater design: Coastal Engineering, Proc. First Conf., p. 205-212.
- 1107. Johnson, J. W., Fuchs, R. A., and Morison, J. R., 1951, The damping action of submerged breakwaters: Am. Geophys. Union Trans., v. 32, p. 704-718.
- 1108. Johnson, J. W., and Minaker, W. L., 1944,

- Movements and deposition of sediment in the vicinity of debris barriers: Am. Geophys. Union Trans., v. 25, p. 901-905.
- 1109. Kaplan, K., 1952, Effective height of seawalls: U. S. Beach Erosion Board Bull., v. 6, p. 1-18.
- 1110. Kaplan, K., 1952, Notes on determination of stable underwater breakwater slopes: U.S. Beach Erosion Board Bull., v. 6, p. 20-22.
- 1111. Kaplan, K., and Pape, H. E., Jr., 1950, Design of breakwaters: Coastal Engineering, Proc. First Conf., p. 213-222.
- 1112. Kemp, P. H., 1962, A model study of the behaviour of beaches and groynes: Inst. Civil Engineers Proc., v. 22, p. 191-210.
- 1113. Kidson, C., 1959, The uses and limitations of vegetation in shore stabilization: Geography, v. 44, p. 241-250.
- 1114. Knaps, R. J., 1950, The action and application of breakwaters as protective structures on sandy coast: Izvestiya AN Latv. SSSR, no.7,
- 1115. Knaps, R. J., 1952, Protective structures of the mole type and the movement of sediments along sandy coasts: Izvestiya AN Latv. SSSR, no. 6.
- 1116. Krumbein, W. C., 1957, A method for specification of sand for beach fills: U. S. Beach Erosion Board Tech. Memo. 102.
- 1117. Lewis, W. H., 1956, The foreshore erosion problem of the lower reaches of the Mississippi River: Shore and Beach, v. 24, p. 13-15.
- 1118. McKee, R., and Schoth, H. A., 1941, Sand dune control in the United States: Shore and Beach, v. 9, p. 42-44.
- 1119. McLaughlin, W. T., and Brown, R. L., 1943, Controlling coastal sand dunes in the Pacific northwest: Shore and Brach, v. 11, p.7-24.
- 1120. MacArthur, A., 1956, Maintenance of the Harrison County, Mississippi sloping beach: Shore and Beach, v. 24, p. 17-19.
- 1121. Marlette, J. W., 1954, The breakwater at Redondo Beach, California, and its effect on erosion and sedimentation: Univ. of Southern Calif., M. S. Thesis, 82 p.

- 1122. Mather, B., 1957, Factors affecting durability of concrete in coastal structures: U. S. Beach Erosion Board Tech. Memo. 96.
- 1123. Minikin, R. C. R., 1950, Wind, waves and maritime structures-studies in harbour making and in the protection of coasts: Griffin, London, 224 p.
- 1124. Munk, W. H., 1948, Wave action on structures: Am. Inst. Mining Metallurgical Eng., Tech. Pub. 2322, p. 1-18.
- 1125. Myers, H. B., and Theis, A. R., 1956, Beach erosion control, Grand Isle, Louisiana: Shore and Beach, v. 24, p. 19-23.
- 1126. Nash, E., 1962, Beach and sand dune erosion control at Cape Hatteras National Seashore: U. S. Dept. of the Interior, Natl. Park Serv. Five Year Review, 1956-1961, unpub. report.
- 1127. North Carolina Council of Civil Defense, 1955, Long range hurricane rehabilitation project: State of North Carolina, Raleigh.
- 1128. O'Brien, M. P., and Morison, J. R., 1952, The forces exerted by waves on objects: Am. Geophys. Union Trans., v. 33, p. 32-38.
- 1129. Oosting, H. J., 1945, Tolerance to salt spray of plants of coastal dunes: Ecology, v. 26, p. 85-89.
- 1130. Oosting, H. J., and Billings, W. D., 1942, Factors effecting vegetation zonation on coastal dunes: Ecology, v. 23, p. 131-142.
- 1131. Palmer, R. Q., 1960, Breakwaters in the Hawaiian Islands: Am. Soc. Civil Engineers Proc., Waterways Harbors Div., v. 86, paper 2507.
- 1132. Petersen, M., 1963, Review of German experience on coastal protection by groins: U. S. Beach Erosion Board Bull., v. 17, p. 38-54.

- 1134. Purpura, J. A., 1962, Model studies of coastal inlets with special reference to the Bakers Haulover inlet model study: Florida Eng. and Ind. Exp. Sta. Leaflet No. 150, v. 16, no. 4, Gainesville.
- 1135. Ross, C. W., 1955, Laboratory study of shock pressures of breaking waves: U. S. Beach Erosion Board Tech. Memo. 59.
- 1136. Ross, C. W., 1957, Model tests on a triplebulkhead type of floating breakwater: U.S. Beach Erosion Board Tech, Memo. 99.
- 1137. Ross, C. W., 1959, Large-scale tests of wave forces on pilings (preliminary report): U. S. Beach Erosion Board Tech. Memo. 111.
- 1138. Savage, R. P., 1957, Sand bypassing at Port Hueneme, California: U. S. Beach Erosion Board Tech. Memo. 92.
- 1139. Savage, R. P., 1959, Laboratory study of the effect of groins on the rate of littoral transport: equipment development and initial tests: U. S. Beach Erosion Board Tech. Memo. 114,
- 1140. Savage, R. P., 1962, A graphical method for checking the design height of structures subjected to wave run-up: U. S. Beach Erosion Board Bull., v. 15, p. 1-5.
- 1141. Savage, R. P., 1962, Experimental dune building, North Carolina Outer Banks: Shore and Beach, v. 30, p. 23-28.
- 1142. Saville, T., Jr., 1955, Laboratory data on wave run-up and overtopping on shore structure: U. S. Beach Erosion Board Tech. Memo. 64.
- 1143. Saville, T., Jr., 1961, Sand transfer beach control and inlet improvements, Fire Island Inlet to Jones Beach, New York: Coastal Engineering, v. 7, p. 785-807.
- 1144. Saville, T., Jr., Caldwell, J. M., and Simmons, H. B., 1957, Preliminary report: Laboratory study of the effect of an uncontrolled inlet on the adjacent beaches: U.S. Beach Erosion Board Tech. Memo. 94.
- 1145. Shepard, F. P., 1943, Shoreline erosion at La Jolla, California: Jour. Civil Engineering, v. 13, p. 80-82.
- 1146. Shigley, C. M., 1951, Engineering problems of coastal waters: Tex. Jour. Sci., v. 3,

- p. 21-29.
- 1147. Shirdan, L., 1960, Island harbours and their influence on adjacent shores: Coastal Engineering, Proc. Seventh Conf., p. 808-816.
- 1148. Sibui, O. J., and Tickner, E. G., 1955, A model study of the run-up of wind-generated waves on levees with slopes of 1:3 and 1:6: U. S. Beach Erosion Board Tech. Memo. 67.
- 1149. Sibul, O. J., and Tickner, E. G., 1956, Model study of overtopping of wind-generated waves on levees with slopes of i:3 and 1:6: U. S. Beach Erosion Board Tech. Memo. 80.
- 1150. Sorensen, T., 1960, The development of coast profiles on a receding coast protected by groynes: Coastal Engineering, Proc. Seventh Conf., p. 836-846.
- 1151. Stratton, A. C., 1943, Reclaiming North Carolina banks: Jour. Am. Shore and Beach Preserv. Assn., v. 18.
- 1152. U. S. Army Engineer District, Wilmington Corps of Engineers, 1930, Carolina beach and vicinity, N.C. Combined survey report of hurricanes and cooperative beach erosion control study, Carolina Beach, N.C.: Submitted in Compliance with Public Law 71 (84th Cong. 1st Sess., Adopted June 15, 1955) and Section 2 of the River and Harbor Act, Approved July 3, 1930, as amended and supplemented, 2 v.
- 1153. U. S. Army Engineer District, Wilmington, Corps of Engineers, 1962, North Carolina Coastal Areas: Storm of 6-8 March 1962 (Ash Wednesday Storm): Final Post-Flood Report (RCS ENGCW-O-2), Wilmington, North Carolina.
- 1154. U. S. Army Engineer District, Wilmington, Corps of Engineers, 1963, Combined hurricane and beach erosion control report, N.C.: Information called for by Senate Resolution 148, 85th Congress, Adopted January 28, 1958, Wilmington, North Carolina.
- 1155. U. S. Congress, 1948, North Carolina shore line, beach erosion study: House Doc. 763, 80th Cong., 2n Sess., p. 20.
- 1156. U. S. Department of the Army, Corps of Engineers, 1954, Study of Point Magu to San Pedro breakwater: 83rd Cong., 2nd Session House Doc. No. 277, 170 p.

1158. Waterways Experiment Station, 1949, Breakwater stability, model investigation, above site: W. E. S. Tech. Memo. 2-296.

1159. Watts, G. M., 1956, Behavior of beach fill at Ocean City, New Jersey: U. S. Beach Erosion Board Tech. Memo. 177. 1160. Watts, G. M., 1959, Behavior of beach fill and borrow at Harrison County, Mississippi: U. S. Beach Erosion Board Tech. Memo. 107.

1161. Watts, G. M., 1959, Behavior of beach fill at Virginia Beach, Virginia: U. S. Beach Erosion Board Tech. Memo, 113.

1162. Wiegel, R. L., 1959, Sand by-passing at Santa Barbara, California: Am. Soc. Civil Engineers Proc., v. 85.

## IV. QUANTITATIVE ANALYSIS OF DATA

#### IV. A. DIRECTLY RELATED TO BEACHES OR COASTS

- 1163. Garrison, W. L., 1956, Applicability of statistical inference to geographical research: Geog. Rev., v. 46, p. 427-429.
- 1164. Imbrie, J., 1963, Factor and vector analysis programs for analyzing geologic data: Northwestern Univ., TR. 6, Evanston, Ili.
- 1165. Krumbein, W. C., 1954, Applications of statistical methods to sedimentary rocks: Jour. Am. Statistical Assoc., v. 49, p. 51-66.
- 1166. Krumbein, W. C., 1959, Experimental design in the earth sciences: Am. Geophys. Union Trans., v. 36, p. 1-11.
- 1167. Krumbein, W. C., 1959, The "sorting out" of geological variables illustrated by regression analysis of factors controlling beach firmness: Jour. Sed. Petrology, v. 29, p. 575-587.
- 1168. Krumbein, W. C., 1959, Trend surface analysis of contour-type maps with irregular control-point spacing: Jour. Geophys. Res., v. 64, p. 823-834.
- 1169. Krumbein, W. C., 1960, The "geological population" as a framework for analyzing numerical data in geology: Liverpool and Manchester Geol. Jour., v. 2, p. 341-368.
- 1170. Krumbein, W. C., 1961, The analysis of observational data from natural beaches: U. S. Beach Erosion Board Tech. Memo. 130.

- 1171. Krumbein, W. C., 1963, A geological processresponse model for analysis of beach phenomena: U. S. Beach Erosion Board Bull., v. 17, p. 1-15.
- 1172. Krumbein, W. C., 1963, Confidence intervals on low-order trend surfaces: Jour. Geophysical Research, v. 68.
- 1173. Krumbein, W. C., and Miller, R. L., 1953, Design of experiments for statistical analysis of geological data: Jour. Geology, v. 61, p. 510-522.
- 1174. Krumbein, W. C., and Miller, R. L., 1954,
  A note on transformation of data for analysis of variance: Jour. Geol., v. 62,
  p. 192-193.
- 1175. Miller, R. L., 1956, Trend surfaces: Their application to analysis and description of environments of sedimentation: Jour. Geology, v. 64, p. 425-446.
- 1176. Miller, R. L., and Kahn, J. S., 1962, Statistical analysis in the geological sciences: New York, John Wiley & Sons, 483 p.
- 1177. Seiwell, H. R., 1949, The principles of time series analysis applied to ocean wave data: Natl. Acad. Sci. Proc., v. 35, p. 518-528.
- 1178. Seiwell, H. R., 1950, Problems in statistical analysis of geophysical time series: Science, v. 112, p. 243-246.

- 1179. Strahler, A. N., 1954, Statistical analysis in geomorphic research: Jour. Geology, v. 62, p. 1-25.
- 1180. Shrahler, A. N., 1956, Basic principles of quantitative geomorphology: Assoc. Am.
- Geographers Annals, v. 46, p. 275.
- 1181. Whitten, E. H. T., 1964, Process-response models in geology: Geol. Soc. of America Bull., v. 75, p. 455-464.

## IV. B. INDIRECT APPLICATION TO BEACHES OR COASTS

- 1182. Alder, H. L., and Roessler, E. B., 1962, Introduction to probability and statistics; San Francisco, W. H. Freemen and Company, 289 p.
- 1183. Allen, P., and Krumbein, W. C., 1962, Secondary trend components in the top Ashdown Pebble Bed, a case history: Jour. Geology, v. 70, p. 507-538.
- 1184. Bunge, W., 1962, Theoretical geography: Lund, Sweden: Roy. Univ. Lund, Studies in Geography, Series C, General and Math. Geog., no. 1.
- 1185. Chayes, F., and Suzuki, Y., 1963, Geological contours and trend surfaces: Jour. Petrology, v. 4, p. 307-312.
- 1186. Cochran, W. G., 1963, Sampling techniques: New York, John Wiley & Sons, Inc., 413 p.
- 1187. Cochran, W. G., Mosteller, F., and Tukey, J. W., 1954, Principles of sampling: Jour. Am. Statistical Assoc., v. 49, p. 13-35.
- 1188. Cramer, H., 1946, Mathematical methods of statistics: Princeton, N. J., Princeton University Press, 575 p.
- 1189. Emery, J. R., and Griffiths, J. C., 1954, Differentiation of oil-bearing from barren sediments by quantitative petrographic analysis: Penn. State Univ., Mineral Indus. Expt. Sta. Bull. 62, p. 76-80.
- 1190. Fisher, R. A., 1942, The design of experiments: London, Oliver & Boyd, Ltd., 236 p.
- 1191. Fisher, R. A., 1948, Statistical methods for the research worker: London, Oliver & Boyd, Ltd., 354 p.
- 1192. Freund, J. E., 1952, Modern elementary statistics: Englewood Cliffs, N. J., Prentic-Hall, Inc., 418 p.
- 1193. Fruchter, B., 1954, Introduction to factor analysis: New York: D. Van Nostrand Co.,

- p. 87-105.
- 1194. Garrison, W. L., 1956, Estimates of the parameters of spatial interaction: Regional Science Assoc., Papers and Proc., v. 2, p. 280-288.
- 1195. Grant, F., 1957, A problem in the analysis of geophysical data: Geophysics, v. 22, p. 309-343.
- 1196. Gregory, S., 1963, Statistical methods and the geographer: Cambridge, England, W. Heffer & Sons, Ltd., 240 p.
- 1197. Griffiths, J. C., 1955, Statistics for the description of frequency distributions: Compass, v. 32, p. 329-346.
- 1198. Griffiths, J. C., 1958, Geometrics in petroleum petrography: Producer Monthly, v. 22, p. 40.
- 1199. Hansen, M. H., Hurwitz, W. N., and Madow, W. G., 1953, Sample survey methods and theory, Vol. 1: New York, John Wiley & Sons, Inc., 638 p.
- 1200. Hoel, P. G., 1954, Introduction to mathematical statistics: New York: John Wiley & Sons, Inc., 331 p.
- 1201. Kendall, M. G., 1957, A course in multivariate analysis: London, Charles Griffin & Co., Ltd., 185 p.
- 1202. King, L. J., 1961, A multivariate analysis of the spacing of urban settlements in the United States: Assoc. Am. Geographers Annals, v. 51, p. 222-233.
- 1203. Krumbein, W. C., 1962, The computer in geology: Science, v. 136, p. 1087-1092.
- 1204. Krumbein, W. C., and Lieblein, J., 1956, Geologic application of extreme-value methods to interpretation of cobbles and boulders in gravel deposits: Am. Geophys. Union Trans., v. 37, p. 313-319.

- 1205. Krumbein, W. C., and Slack, H. A., 1956, Statistical analysis of low-level radioactivity of Pennsylvanian black fissile shale in Illinois: Geol. Soc. America Bull., v. 67, p. 739-762.
- 1206. Li, J. C. R., 1961, Introduction to statistical inference: Ann Arbor, Michigan, Edwards Brothers, Inc., 568 p.
- 1207. Mackay, J. R., 1958, Chi square as a tool for regional studies: Assoc. Am. Geographers Annals, v. 48, p. 164.
- 1208. Mackay, J. R., and Berry, B. J. L., 1959, Comments on the use of Chi square: Assoc. Am. Geographers Annals, v. 49, p. 89.
- 1209. Mandelbaum, H., 1963, Statistical and geological implications of trend mapping with non orthogonal polynomials: Jour. Geophysical Research, v. 68, p. 505-520.
- 1210. Melton, M. A., 1958, Correlation structure of morphometric properties of drainage systems and their controlling agents: Jour. Geology, v. 66, p. 442-460.
- 1211. Melton, M.A., 1958, Geometric properties of mature drainage systems and their representation in E<sub>4</sub> phase space: Jour. Geology, v. 66, p. 35-56.
- 1212. Miller, R. L., and Olson, E. C., 1954, The statistical stability of quantitative properties as a fundamental criterion for the study of environments: Jour. Geology, v. 62, p. 376-387.
- 1213. Mode, E. B., 1959, Elements of statistics: Englewood Cliffs, N. J., Prentice-Hall, Inc., 377 p.
- 1214. Moroney, M. J., 1962, Facts from figures: Baltimore, Maryland, Penguin Books, 472. p.
- 1215. Olson, E. C., and Miller, R. L., 1951, A mathematical model applied to study of the evolution of species: Evolution, v. 5, p. 256-338.
- 1216. Olson, E. C., and Miller, R. L., 1958, Morphological intergration: Chicago, Univ. Chicago Press, 317 p.
- 1217. Peguy, Ch. P., 1948, Introduction a 1'emploi des methodes statistiques en geographie physique; Rev. Geogr. Alpine, v. 36,

- p. 1-103.
- 1218. Peguy, Ch. P., 1957, Elements de statistique appliquee aux sciences geographiques: Centre de Documentation Universitaire, 5 place de la Sorbonne, Paris.
- 1219. Ralston, A., 1960, Mathematical methods for digital computers: New York, John Wiley and Sons, 293 p.
- 1220. Robinson, A. H., Lindberg, J. B., and Brinkman, L. W., 1961, A correlation and regression analysis applied to rural form population densities in the great plains: Assoc. Am. Geographers Annals, v. 51, p. 211-221.
- 1221. Roder, W., and Berry, B. J. L., 1960, Direct factor analysis of urban flood plain data: Univ. Chicago, Dept. Geog.
- 1222. Rosander, A. C., 1951, Elementary principles of statistics: New York, D. van Nostrand, 693 p.
- 1223. Snedecor, G. W., 1956, Statistical methods: Ames, Iowa, The Iowa State College Press, 534 p.
- 1224. Stevens, B. H., 1960, A review of the literature on linear methods and models for spatial analysis: Jour. Am. Institute of Planners, v. 26, p. 253-259.
- 1225. Strahler, A. N., 1952, Quantitative geomorphology of erosional landscapes: Congr. Geol. Int., Algeria, Sec. 15, p. 341-354.
- 1226. Strahler, A. N., 1956, Quantitative slope analysis: Geol. Soc. America Bull., v. 67, p. 571-596.
- 1227. Warntz, W., and Neft, D., 1960, Contributions to a statistical methodology for areal distributions: Jour. of Regional Science, v. 2, p. 45-66.
- 1228. Whitten, E. H. T., 1963, A surface-fitting program suitable for testing geological models which involve areally-distributed data: Tech. Report No. 2, ONR Task No. 389-135, contract no. NR 1228(26), Office of Naval Res., Geography Branch, Northwestern Univ., Evanston, Ill.
- 1229. Wong, S. T., 1963, A multivariate statistical model for predicting mean annual flood in New England: Assoc. Am. Geographers Annals, v. 53, p. 298-311.

1230. Wood, W. F., and Snell, J. B., 1957, The dispersion of geomorphic data around measures of central tendency and its application:

Res. Study Rept. EA-8, Quartermaster Res. and Devel. Center, Natick, Mass.

### V. BIBLIOGRAPHIES AND OTHER SOURCE MATERIALS

## V. A. REFERENCE BOOKS

- 1231. Barnes, H., 1959, Oceanography and Marine Biology; a book of techniques: New York, MacMillan, 218 p.
- 1232. Defant, A., 1961, Physical Oceanography, v. 2: New York, Pergamon Press, 598 p.
- 1233. Dietrich, G., 1963, General oceanography:
  New York, Interscience Publications, 558 p.
- 1234. Emery, K. O., 1960, The sea off southern California: New York, John Wiley and Sons, Inc., 366 p.
- 1235. Gorsline, D. S., Editor, 1962, Natl. Coastal and Shallow Water Research Proc., First Conf., 1962.
- 1236. Government-Industry Oceanography, 1961, Instrumentation Symposium, Wash. D. C., Miller-Columbia Reporting Service, 482 p.
- 1237. Gresswell, R. K., 1957, The physical geography of beaches and coastlines: Hulton Educational Publications, Ltd.
- 1238. Guilcher, A., 1954, Morphologie littorale et sous-marine: Paris, Presses Univ. France, 216 p.
- 1239. Guilcher, A. 1958, Coastal and submarine morphology: Linden, Methuen, New York, John Wiley, 274 p.
- 1240. Gulliver, F. P., 1899, Shoreline topography: Am. Acad. Arts and Science Proc., v. 34, p. 152-258,
- 1241. International Oceanographic Congress Proc., 1959, New York, 654 p.
- 1242. Johnson, D. W., 1919, Shore processes and shoreline development: New York, J. Wiley & Sons, Inc., 584 p.
- 1243. King, C. A. M., 1959, Beaches and coast: London, E. Arnold, 403 p.

- 1244. King, C. A. M., 1962, Edge of the Sea: in Oceans (edited by G. E. R. Deacon, London)
- 1245. Krumbein, W. C., and Sloss, L. L., 1963, Strattgraphy and sedimentation: San Francisco, W. H. Freemen, 600 p.
- 1246. Kuenen, Ph. H., 1950, Marine geology: New York, John Wiley and Sons, Inc., 568 p.
- 1247. Lobeck, A. K., 1939, Geomorphology, an introduction to the study of landscapes: New York, McGraw-Hill, 731 p.
- 1248. Marmer, H. A., 1930, The sea: New York, D. Appleton and Co., 312 p.
- 1249. Martonne, Emmanuel de, 1926, Traité de geographie physique: v. 2, Le Relief du sol: Paris, A. Colin, p. 1011-1039.
- 1250. Ommanney, F. D., 1949, The ocean: London, Oxford Univ. Press, 238 p.
- 1251. Pettijohn, F. J., 1957, Sedimentary rocks: New York, Harper & Bros., 718 p.
- 1252. Progress in Oceanography, 1963, Yearbook, v. 1, Oxford, New York, Pergamon Press.
- 1253. Proudman, A. J., 1953, Dynamical oceanography: New York, John Wiley and son, 409 p.
- 1254. Putnam, W. C., and others, 1960, Natural coastal environments of the world: Univ. of Calif., Los Angeles, 140 p.
- 1255. Russell, R.C.H., and MacMillan, B. H., 1952, Waves and tides: London, Hutchinson, 346 p.
- 1256. Scheidegger, A. E., 1961, Theoretical geomorphology: Englewood Cliffs, New Jersey: Prentice-Hall, 333 p.
- 1257. Sears, M., 1961, Oceanography: Am. Assoc. Advance. Science, Publ. No. 67, Washing-

- ton, D. C., 654 p.
- 1258. Shaler, N. S., 1892, Sea beaches: Scribners Mag., v. 11, 762 p.
- 1259. Shaler, N. S., 1894, Sea and Land, New York,C. Scribner's Sons, 252 p.
- 1260. Shepard, F. P., 1948, Submarine geology: New York, Harper and Bros., 348 p.
- 1261. Steers, J. A., 1953, The sea coast: London, Collins, New Nat. Ser., 276 p.
- 1262. Sverdrup, H. V., Fleming, R., and Johnson, M. W., 1942, The oceans: New York, Prentice Hall, Inc., 1987 p.

- 1263. Thornbury, W. D., 1956, Principles of geomorphology: New York, John Wiley & Sons, 618 p.
- 1264. Trask, P. D., 1950, Applied sedimentation: New York, John Wiley & Sons, 707 p.
- 1265. Von Arx, W. S., 1962, An introduction to physical oceanography: Reading, Mass., Addison and Wesley Pub. Co., 422 p.
- 1266. Williams, J., 1962, Oceanography: Boston, Little and Brown, 242 p.
- 1267. Williams, W. W., 1960, Coastal changes:
  London, Routledge and Kegan Paul Ltd.,

#### V.B. OTHER BIBLIOGRAPHIES

- 1268. Anderson, M., 1963, A working bibliography of mathematical geography: Michigan Inter-Univ. Commun. Math. Geog. Disc. Paper No. 2.
- 1269. Beach Erosion Board, 1962, List of contents for proceedings of coastal engineering conference: U. S. Beach Erosion Board Ann. Bull., v. 16, p. 36-63.
- 1270. Bibliography and Index of Geology exclusive of North America: Geological Society of America.
- 1271. Bibliography of North American Geology: Geological Society of America.
- 1272. Clayton, K. M., 1963, A bibliography of British Geomorphology: The British Geomorph. Research Group, London, George Philip and Son Ltd., 211 p.
- 1273. Coastal Studies Institute, Louisiana State University, 1960, International geographical union commission on coastal sedimentation bibliography 1955-1958: Coastal Studies Institute, Baton Rouge.
- 1274. Consiglio Nazionale Della Richerche, Italy,
   1950, Bibliographia Oceanographica (1946):
   v. 19, 123 p.
- 1275. Corps of Engineers, U. S. Army, 1959, Bibliography on tidal hydraulics: Committee on Tidal Hydraulics Report No. 2.
- 1276. Crooke, R. C., and others, 1953, Inshore survey, San Francisco Bay: Berkeley,

- Calif., Eng. Foundation Tech. Rept. 57, 370 p.
- 1277. Cuellar, M. P., and A. G. U. Committee, 1953, Annotated bibliography on Tsunamis: U. S. Beach Erosion Board Tech. Memo. 30.
- 1278. Geyer, R. A., 1948, Annotated bibliography of marine geophysical and geological surveys: Geol. Soc. America Bull., v. 59, p. 671-696.
- 1279. Haferkorn, H. E., 1929, Coast changes, Bibliography: Chief of Engineers, U. S. Army, Fort Humphreys, Va., The Engineering School.
- 1280. Haferkorn, H. E., 1929, Sand movement, beaches, and kindred subjects, a bibliography: Engineering School Library, Office of Chief of Engineers, U. S. Army, Fort Humphreys, Va., 114 p.
- 1281. Hedgpeth, J. W., 1953, A preliminary bibliography of books on the seashore, oceanography, and related subjects: Scripps Inst. Oceanography, SIO Ref. 53-13, 69 p.
- 1282. McGill, J. T., 1960, Selected bibliography of coastal geomorphology of the world: University of California, Los Angeles.
- 1183. Military Hydrology Research & Development Branch, U. S. Army Engineers, 1957, Selected references on military hydrology: Mil. Hydro. Bull. 8, Dept. of Army Res. and Devel. Project 8-97-10-003, 25 p.

- 1284. Morgan, J. P., 1958, A bibliography of recent publications on oceanography: The Coastal Studies Institute, Louisiana State University, Contribution No. 58-2.
- 1285. State Board of Conservation, Div. of Water Survey and Research, 1952, Information on beach protection in Florida - Bibliography: State of Florida, Tallahassee, Florida, 52 p.
- 1286. Steers, J. A., 1953, Recent papers on the coast of England and Wales: Geog. Jour.,

#### v. 119, p. 92-96.

- 1287. Terry, R. D., 1955, Bibliography of marine geology and oceanography, California coast: San Francisco, Calif. Div. of Mines, Spec. Rept. 44, 131 p.
- 1288. Williams, L., 1937, Classification and selected bibliography of the surface textures of sedimentary fragments: Natl. Res. Coun. Ann. Rept. 1936-37, Rept. Comm. Sed., p. 114-128.

## V. C. PERIODICALS

- 1289. American Association of Petroleum Geologists, Bulletin, Tulsa, Oklahoma.
- 1290. American Geophysical Union (National Research Council), Transactions. Washington, D. C.
- 1291. American Journal of Science, New Haven, Connecticut.
- 1292. Annals, Association of American Geographers, Lawrence, Kansas.
- 1293. Australian Geographer (Geographical Society of New South Wales), Sydney.
- 1294. Australian Journal of Science, Sydney.
- 1295. Annual Bulletin and Technical Memo. of the Beach Erosion Board.
- 1296. California, University, Publications in Geological Sciences, Berkeley and Los Angeles.
- 1297. Conferences on Coastal Engineering, 1st vol. 1950, Berkeley, Calif. Council on Wave Research.
- 1298. Contributions of California, University of, Scripps Institute of Oceanography, The Library, Scripps Institute of Oceanography, La Jolla, Calif.
- 1299. Deep-Sea Research, London.
- 1300. Geografiska Annaler (Svenska Saalskapet for Antropologi och Geografi), Stockholm.
- 1301. Geographica, Uppsala, Universitet, Geografiska Institution, Skrifter.
- Geographical Journal, Royal Geographical Society, London.

- 1303. Geographical Review, American Geographical Society, New York.
- 1304. Geographische Gesellschaft, in Wien, Festschrift zur Hudertjahrfeier, Mitteilungen.
- 1305. Geography, Geographical Assoc., Quarterly Jour., Sheffield, England.
- 1306. Geological Society of America, Bulletin; Memoirs; Proceedings, New York.
- 1307. Geological Society of Australia, Journal, Adelaide
- 1308. Geological Society of Glasgow, Transactions, Glasgow.
- 1309. Geological Society of Japan, Journal, Tokyo.
- 1310. Geological Society of London, Proceedings; Quarterly Journal, London.
- Geomorphological Abstracts, London School of Economics, London.
- 1312. Geoscience Abstracts, American Geological Institute, Washington, D. C.
- 1313. Institut Océanographique, Annales, Paris.
- 1314. Institute of British Geographers, Publication, Transactions and Papers, London.
- 1315. International Hydrographic Review, Quai des estats-Unis, Monte-Carlo, Monacco.
- 1316. International Journal of Marine Geology, Geochemistry, and Geophysics, Martinus Nifhoff, Hague, Netherlands.
- 1317. Journal of Sedimentary Petrology, Tulsa,

- Oklahoma.
- 1318. Louisiana State University, Coastal Studies Institute, Technical Reports, Baton Rouge.
- 1319. National Research Council Committee on Shoreline Investigations, Washington, D. C., Pub. by National Research Council of the National Academy of Science.
- 1320. Oceanographic Institutions Contributions, Woods Hole, Mass.
- 1321. Professional Geographer, Association of American Geographers, Washington, D. C.
- 1322. Revue de Géographie physique et de Géologie dynamique, Paris.
- 1323. Revue de Géomorphologie Dynamique, Paris.
- 1324. Revue géneralé de l'Hydraulique, Paris.
- 1325. Science, American Association for the Advancement of Science, Washington, D. C.
- 1326. Sedimentology, International Association of Sedimentologists, Wageningen, Netherlands.

- 1327. Shore and Beach, Journal of the American Shore and Beach Preservation Assoc., New Orleans, La.
- 1328. Texas Agricultural and Mechanical College, Publications of the, Dept. of Oceanography, College Station, Texas.
- 1329. U. S. Dept. of the Army, Chief of Engineers, Beach Erosion Board, Technical Memorandums, Annual Bulletins, and Technical Reports, Washington, D. C. (also listed as number 1295.)
- 1330. U. S. Geological Survey, Bulletin; Professional Paper, Washington, D. C.
- U. S. Govt. Research Reports, Office of Tech. Services, U. S. Dept. of Commerce, Wash. 25, D. C.
- 1332. Washington State University, Publications in oceanography, U. of Wash. Press, Seattle, Wash.
- 1333. Zeitschrift für Geomorphologie--Annals of Geomorphology--Annales de Géomorphologie, Berlin.

#### V.D. MISCELLANEOUS

- 1334. Hidaka, K., 1953, Japanese research in physical oceanography, 1948-1950: U. S. Beach Erosion Board Bull., v. 7, p. 26-35.
- 1335. Marine Institute of the University of Georgia, 1959, Salt Marsh Conf. Proc., March 1958, Sapelo Island.
- 1336. Morgan, J. P., 1959, Activities and research results of the Coastal Studies Institute including a bibliography of publications pertaining to the Mississippi River delta and coastal Louisiana: Coastal Geography, Proc. Second Conf., Coastal Studies Inst., Louisiana State University, Baton Rouge.
- 1337. National Research Council, 1961, Panel on coastal geography: Sponsored by NAS-NRC Committee on Geography, Advisory to the Office of Naval Research, Washington National Academy of Sciences, National Research Council, 17 p.
- 1338. O'Brien, M. P., Johnson, J. W., and Wiegel, R. L., Glossary of terms and standard symbols, Manual of Amphibious Oceanography.

- 1339. Office of Naval Research and NRC Committee on Geography, 1954, Coastal geography conference: Department of the Navy, Washington, D. C.
- 1340. Russell, R. J., Editor, 1959, Second Coastal Conference: Coastal Studies Institute, Louisiana State University, sponsored by the Geography Branch, Office of Naval Research and the Natl. Acad. Sci.
- 1341. Shuster, C. N., Jr., Daiber, F. C., and Frey, K. P. H., 1961, Shallow Water Research at the University of Delaware: Coastal and Shallow Water Research Conference.
- 1342. Steers, J. A., 1956, The coast as a field for physiographical research: Inst. British Geog. Trans. and Papers, Pub. 22, p. 1-13.

# PARTTWO AUTHOR REFERENCES

(Numbers refer to entries in the bibliography, not page numbers, Publications by two or more authors are indexed by the first author only.)

A	Bigelow, H. B., 758	Chamberlain, J. L., 75
Abdullah, A. J., 892	Bird, E. C. F., 4, 42	Champion, D. L., 647
Abecasis, D. K., 539	Blackman, B., 1066	Chang, S. S., 938
Agnew, R., 873	Blanton, S. L., Jr., 200	Charney, J. G., 648
Alder, H. L., 1182	Blood, H. K. W., 970	Charnock, H., 649, 874
Allen, J., 216, 623	Boos, M. F., 310	Chase, J., 875
Allen, P., 1183	Borgman, L. E., 631	Chayes, F., 1185
American Society of Civil Engi-	Boucher, J. W., 632	Chesterman, W. D., 291
neers, Northwestern Section,	Bowden, K. F., 633	Chien, N., 437, 830, 1080
430	Bowman, J. G., 61	Chute, N. E., 76
Anderson, M., 1267	Boyé, M., 180	Clarke, J. W., 313
Angas, W. M., 1058	Branner, J. C., 181	
Anonymous, 91, 495, 540, 575,		Clayton, K. M., 1272
	Brennan, J. F., 852	Clements, T., 314
965, 966, 967, 1059	Bretschneider, C. L., 71, 634,	Cline, I. M., 895, 896
Antonini, G. A., 1	635, 636, 637, 638, 639, 640,	Coastal Engineering Staff, 988,
Apfel, E. T., 420	641, 642, 643, 644, 759, 760,	989, 990
Arlman, J. J., 576, 577	761, 893, 894, 1067	Coastal Studies Institute, L.S.U.,
Arnborg, L., 431, 432	Bretting, A. E., 1068	1272
Arthur, R. S., 624, 625, 826, 827	Briggs, R. D., 360	Cochran, W. G., 1186, 1187
Athearn, W. D., 2	Brown, A. P., 219	Cole, G., 1081
Atwood, W. G., 217	Brown, C. V., 182	Coleman, C. G., 277
Aufrere, L., 51	Brown, C. W., 72	Conner, W. C., 897
Ayers, J. R., 1060	Brown, E. I., 62, 971, 972, 973,	Converse, J. B., 991
Ayrton, H., 218	974, 975, 1069	Cooper, A. W., 6
	Brown, R. C., 63	Cooper, W. S., 54, 55
В	Bruun, P., 5, 73, 98, 99, 543,	Corkan, R. N., 898
Babcock, B. A., 564	578, 976, 977, 978, 979, 980,	Cornish, V., 101, 102, 221
Bagnold, R. A., 52, 92, 433, 434,	981, 982, 983, 1070, 1071,	Corps of Engineers, 438, 939
496, 497, 626, 919, 920	1072, 1073, 1074, 1075	Corrsin, S., 439
Bajorunas, L., 541	Bryan, K., 53	Coultas, H. W., 544
Baldwin, E. J., 307	Bryson, D. K., 381	Cox, R. A., 940
Bamesberger, J. G., 68	Bucher, W. H., 220	Cox, R. G., 1082
Barber, N. F., 627, 930,	Bullard, F. M., 311, 312	Cramer, H., 1188
Barnes, F. A., 3, 69	Bunge, W., 1184	Crease, J., 650
Barnes, H., 287, 1231	Burnside, W., 762	Crickmore, M. J., 580, 581
Bascom, W. N., 93, 94, 95, 178,	Burt, W. V., 645	
435, 628, 828	Duri, W. V., Olo	Crooke, R. C., 1083, 1276
Bates, C. C., 629	c	Cuellar, M. P., 1277
	_	Currier, L. W., 992
Beach Erosion Board, 70, 96, 97,	Caldwell, J. M., 74, 100, 499,	Curry, J. R., 382, 383
179, 199, 275, 276, 288, 289,	500, 579, 829, 935, 984, 985,	_
290, 308, 498, 542,630, 757,	986, 1076	D
931, 932, 933, 934, 968, 969,	Carr, J. H., 763, 1077	Dapples, E. C., 222
1061, 1062, 1063, 1064, 1065,	Carruthers, J. N., 936, 937, 1078	Darbyshire, J., 651, 652, 653, 899
1269	Carter, A. C., 436	Darrow, W. E., 315
Beal, M. A., 309	Cartwright, D. E., 646	Darwin, G. H., 223
Bell, H. S., 565	Case, G. O., 987	Davidson, J., 582
Belly, Pierre-Yves, 921	Cavanilles, R. I., 1079	Davies, J. L., 43, 44

Davis, J. H., 1084 Davis, W. M., 853 Deacon, G. E. R., 654, 655 Dearduff, R. F., 656, 657 Defant, A., 1232 Deignan, J. E., 1085 Demarest, D. F., 224 Dememtiev, M. A., 440 Dent, E. J., 993 Diephuis, J. G. H. R., 658, 764 Dietrich, G., 1233 Dietz, R. S., 278 Disney, L. P., 876 Division of Water Survey, 994 Dobbie, C. H., 995 Dobbs, P. H., 501 Dobroklonskiy, S. B., 659 Doeglas, D. J., 384 Donn, W. L., 660 Dorland, G. M., 1086 Dorrestein, R., 900 Drane, B. S., 64 Draper, L., 661, 941 Dubrow, M. D., 996 Dune Study Group, 1087 Dunham, J. W., 831 Dunn, G. E., 901 Durietz, T., 316 Duvivier, J., 997

#### E

Eaton, R. O., 103 Eagleson, P. S., 201, 502, 503, 662, 765 Eckart, C. H., 663, 664 Edmondson, W. T., 832 Egorov, E. N., 7, 104, 202, 203, 292, 922, 923 Ehring, H., 665 Einstein, H. A., 317, 441, 442, 443, 444, 445, 504 Emery, J. R., 1189 Emery, K. O., 105, 225, 226, 227, 228, 229, 318, 319, 385, 566, 567, 666, 667, 1234 Escoffier, F. F., 8, 1088 Evans, O. F., 9, 183, 184, 185, 204, 230, 231, 232, 233, 234, 235, 505, 568, 766, 998

#### F

Fairchild, H. L., 236
Fairchild, J. C., 293, 506, 545
Farmer, H. G., 942, 943
Fellows, C. E., 999
Feltner, C. E., 1089
Fineren, W. W., 1000
Finnegan, H. E., 877, 878
Fisher, R. A., 1190, 1191

Fisher, R. L., 507
Flinsch, H. V. N., 668
Folk, R. L., 320
Folsom, R. G., 669, 944
Ford, E. F., 924
Forrest, D. R., 833, 945
Forrest, G., 583
Forster, G. R., 294
Foxworth, R. D., 321
Freund, J. E., 1192
Fridman, R., 508
Friedman, G. M., 322, 386
Friedrichs, 767
Fruchter, B., 1193
Fuchs, R. A., 670

#### G

Garrison, W. L., 1163, 1194 Gerhardt, J. R., 946 Germain, J., 584 Gerritsen, I. F., 1001 Gesler, E. E., 1002, 1090 Geyer, R. A., 1278 Gibert, A., 585 Gilbert, G. K., 10, 237, 238 Gilluly, J., 11 Gilman, C. S., 1091 Glenn, A. H., 1003 Glossop, R., 323 Goldberg, E. D., 586 Gorsline, D. S., 324, 1235 Government-Industry Oceanography 1236 Graham, H. E., 902 Grant, F., 1195 Grant, U. S., 12, 45, 106, 107, 108, 109, 509, 510, 768, 1004 Granthem, K. N., 769 Gregory, S., 1196 Gresswell, R. K., 1237 Griffiths, J. C., 325, 387, 388, 389, 390, 391, 1197, 1198 Grijm, W., 13 Gripenberg, S., 392 Groen, P., 671, 770

#### Н

Guilcher, A., 186, 1238, 1239

Gulliver, F. P., 14, 1240

Haferkorn, H. E., 1279, 1280
Haight, F. J., 854
Halerow, W., 546
Hall, J. A., 771
Hall, J. V., 772, 947, 1007, 1092, 1093, 1094
Hall, M. A., 1095
Hall, W. C., 1005, 1006, 1096
Hamilton, W. S., 773
Handin, J. W., 326, 1008, 1097

Hansen, H. J., 1009 Hansen, M. H., 1199 Hantzschel, W., 327 Hardin, J. R., 1010 Harris, R. A., 855 Harris, R. L., 1098 Haynes, R. F., 1099 Hazlett, D. C., 1100 Hedgpeth, J. W., 1281 Heezen, B. C., 46 Hela, I., 675 Hennebique, J. J., 856 Hersey, J. B., 295 Hidaka, K., 774, 1334 Harris, D. L., 903, 904 Haurwitz, B., 672, 673, 674 Hiranandani, M. G., 587 Hite, M. D., 77 Hjulström, F., 446, 447 Hodges, T. K., 1101 Hoel, P. G., 1200 Holme, N. A., 296 Horikawa, D., 925 Horrer, P. L., 905 Horton, D. F., 1011, 1012, 1102 Hough, J. L., 297 Hough, S. S., 448 Hours, R., 588, 589 Housley, J.G., 775 Howard, A. D., 78 Hoyle, J. W., 110, 1013, 1014, 1015, 1016, 1103, 1104, 1105 Hoyt, J. H., 47, 239, 240 Hsu, K. J., 329 Hudson, R. Y., 1106 Hunt, A. R., 241, 242 Hunter, R. C., 1017 Hydraulic Research Station, 590, 591

#### I

Ijima, T., 592 Imbrie, J., 1164 Ingle, J. C., Jr., 593 Inman, D. L., 111, 112, 113, 114, 205, 243, 330, 331, 393, 449, 511, 594, 595, 776, 857 Inose, S., 596, 597 Inoue, E., 676 International Oceanographic Congress Proc., 1241 Ippen, A. T., 512, 777 Isaacs, J. D., 115, 298, 299. 300, 677, 678, 834, 858, 948 Isaacson, E., 778 Ishihara, T., 513 Iverson, H. W., 779, 780, 781, 782, 949 Iwagaki, Y., 547

1174, 1203, 1204, 1205, 1245 McKee, R., 1118 McKenzie, P., 48, 859 Jacobson, W. A., 950 Kuenen, Ph. H., 190, 252, 341, Jaffry, P., 598, 599 342, 453, 520, 1246 McLaughlin, W. T., 1119 McMaster, R. L., 553 Jaggar, T. A., Jr., 244 Kuhlman, H., 253, 926, 927 McMillan, T. S., 1028 James, R. W., 679 Kumin, D. D., 454 McNown, J. S., 462, 463 Kunkel, W. B., 455 Jarocki, W., 15 Jeireson, M. S. W., 187 Kunzler, R. H., 279 M Jeffreys, H., 680, 783 Kurk, E. H., 426 MacCarthur, A., 1120 Jennings, J. N., 16 Kusnezov, P. A., 790 MacCarthy, G. R., 345, 346, 347, John, F., 784 Johnsen, R., 116 571 MacDonald, G. A., 696 Lafond, E. C., 302, 521, 569 Johnson, D. W., 188, 245, 1242 MacKay, J. R., 1207, 1208 Johnson, J. W., 117, 332, 450, Landon, R. E., 343 Mackenzie, A. D., 1029 514, 548, 549, 681, 682, 683, Landsberg, S. Y., 56 Magnuson, N. C., 908 684, 785, 786, 835, 836, 837, Lane, E. W., 400, 456 Makkaveav, V. M., 697 Lapsley, W. W., 125 951, 1018, 1019, 1107, 1108 Malaika, J., 464 Laursen, E. M., 457 Jolliffe, I. P., 600 Mandelbaum, H., 698, 1209 Jones, J. H., 118, 515 Lawford, A. L., 686 Manohar, M., 526 Lean, G. H., 606 Marks, W., 956 Lees, G., 401 Marlette, J. W., 1121 Kaplan, K., 685, 838, 906, 1109, Le Fur, A., 280 Marmer, H. A., 881, 882, 1248 Legget, R. F., 402 1110, 1111 Leontyev, O. K., 126 Marshall, P., 348, 349 Karo, H. A., 1020 Martens, J. H. C., 131, 132, Kaye, C. A., 1021 Leopold, L. B., 458 133, 350 Keay, T. B., 1022, 1023 Lesbordes, R., 687 Martonne, Emmaneul de, 1249 Lesser, R. M., 459 Keesling, S., 246 Keller, G. H., 333 Mason, C. C., 351 Levchenko, S. P., 954 Mason, M. A., 134, 527, 699, Keller, J. B., 787 Lewis, W. H., 1117 794, 928, 1030, 1031, 1032 Keller, W. D., 334 Lewis, W. V., 19, 20, 191 Kellum, F. W., 952 Mather, B., 1122 Lewy, H., 127 Medvedev, V. S., 135, 607, 608 Kemp, P. H., 189, 1112 Leypoldt, H., 570, 21 Mehmel, M., 609 Kempin, E. T., 516 Lhermitte, P., 522 Melton, M. A., 1210, 1211 Kendall, M. G., 1201 Li, J. C. R., 1206 Menard, H. W., 259, 465, 466, Kerr, A. R., 119 Lindner, C. P., 1025 467 Keulegan, G. H., 206, 207, 208, Linn, C. C., 460 Mewes, W., 700 451, 879 Lipp, M. N., 1026 Kidson, C., 301, 517, 601, 602, Meyer, R. D., 136 Liu, H., 254 Michell, J. H., 701 603, 1113, 550 Lobeck, A. K., 1247 Military Hydrology Research Longinov, V. V., 79, 128, 129, Kindle, E. M., 247, 248, 249, 250, Development Branch, U. S. 130, 192, 461, 523, 524, 525, 335 King, C. A. M., 120, 209, 518, 552, 791, 792, 793 Army Engineer, 1283 Miller, R. L., 137, 468, 1175, 1244, 1243 Longuet-Higgins, M. S., 193, 688, 1176, 1212 689, 690, 691, 692, 693, 840, King, L. J., 1202 Minikin, R. C. R., 1033, 1034, Kinmont, A., 519 841 1035, 1123 Klebba, A. A., 953 Loweil, S. C., 694 Mitchim, C. F., 702 Knaps, R. J., 1114, 1115 Lunbak, A., 907 Miyazaki, M., 860 Knox, R. W., 17 Koelzer, V. A., 336 Mode, E. B., 1213 Kofoed, J. W., 337 McAdam, D., 955 Moore, D. G., 260 Morey, B. F., 957 Kumudai, R., 121 McCabe, W. W., 1027 Kondratyev, N. Y., 788, 789, 839 McCammon, R. B., 403, 404 Morgan, J. P., 82, 1284, 1336 Morison, J. R., 703, 795 Kressner, B., 122 McCrone, W. P., 80 Moroney, M. J., 1214 Krone, R. B., 604, 605 McCurdy, P. G., 281 Krumbein, W. C., 18, 123, 124, McDonald, W. F., 695 Mosby, H., 469, 470 Munch-Peterson, J., 554, 251, 338, 339, 340, 394, 395, McEwen, G. F., 81 Munk, W. H., 211, 704, 705, 706, 396, 397, 398, 399, 421, 422, McGill, J. T., 1282 707, 708, 709, 710, 711, 712, 423, 424, 425, 452, 551, 1024, McKay, E. C., 880 796, 797, 798, 799, 842, 861, 1116, 1165, 1166, 1167, 1168, McKee, E. D., 210, 255, 256,

1124

257, 258, 344

1169, 1170, 1171, 1172, 1173,

Seiwell, H. R., 1177, 1178 Putnam, W. C., 1254 Myers, H. B., 1125 Shaler, N. S., 28, 59, 144, 1258, Putz, R. R., 720, 721, 722 1259 N Sharp, W. E., 412 Nash, E., 1126 Shay, E. A., 558 Rabinovitz, D., 359 Nasu, N., 352 Shepard, F. P., 29, 50, 145, 146, National Academy of Sciences, 713 Ralston, A., 1219 147, 196, 197, 213, 214, 282, National Research Council, 1337 Raymond, P. E., 360, 361 366, 367, 368, 369, 532, 574, Neumann, G., 714, 715, 716 Rector, R. L., 141 865, 866, 867, 868, 869, 870, Redfield, A. C., 884 Nicholls, C. P. L., 1036 1145 Nichols, R. L., 83, 138, 212 Reed, R. D., 362 Shigley, C. M., 1146 Nishimura, E., 883 Reid, R. O., 805 Shirdan, L., 1147 Reid, W. J., 611, 612, 613 Norris, R. M., 22 Shuster, C. N., 30, 1341 Reinalda, H., 556 Norrman, J. O., 139 Sibul, O. J., 729, 813, 886, 887, North Carolina Convention, 1037 Reynolds, G., 909 1148, 1149 North Carolina Council of Civil Riehl, H., 910 Silverman, M., 304 Ripley, H. C., 1042 Defense, 1127 Silvester, R., 814, 1046 Rittenhouse, G., 409 Simmons, H. B., 148 Riviere, A., 194 o Sitarz, J., 149 Robinson, A. H., 1220 O'Brien, M. P., 23, 471, 472, Smith, D. D., 198 Robinson, A. H. W., 911 528, 572, 717, 800, 801, 802, Smith, D. B., 615 Rockwell, J., 958 843, 929, 1128, 1338 Smith, H. T. U., 60 Roder, W., 1221 Off, T., 573 Smith, P. A., 31 Office of Naval Research and NRC Rogers, C. A., 410 Snedecor, G. W., 1223 Rogers, J. J. W., 363 Committee on Geography, 1339 Snodgrass, F. E., 960, 961 Roll, H. U., 723, 724 Olivieri, J. M., 1038 Snow, B. C., 87 Olson, E. C., 1215, 1216 Romanovsky, V., 411 Rosalsky, M. B., 195 Somers, P., 1047 Ommanney, F. D., 1250 Sorensen, T., 1150 Rosander, A. C., 1222 Oosting, H. J., 1129, 1130 Stamp, L. D., 1048 Roseau, M., 806 Otto, G. H., 405, 427 Stanton, T., 730 Ross, C. W., 1135, 1136, 1137 Owens, J. S., 473, 1039 Starr, V. P., 731 Rossby, C. G., 725 State Board of Conservation, Rubey, W. W., 474 Florida, 1285 Rude, G. T., 25, 65 Page, G. B., 57 Steers, J. A., 32, 150, 616, 1049, Rusnak, G. A., 364 Palmer, H. R., 529 1050, 1261, 1286, 1342 Russell, R. C. H., 475, 530, 614, Palmer, R. Q., 844, 845, 1131 Steinmetz, R., 428 1043, 1255 Paterson, D. E., 1040 Stelzenmuller, W. B., 815 Russell, R. D., 476 Patrick, D. A., 140 Russell, R. J., 26, 1340 Stetson, H. C., 151 Patton, R. S., 1041 Stevens, B. H., 1224 Peguy, Ch. P., 1217, 1218 Stevenson, C. D., 871 Peroud, P., 718 Stewart, J. Q., 913 Savage, R. P., 726, 808, 912, Pettersen, M., 1132 1138, 1139, 1140, 1141, 807 Stoddart, D. R., 88 Pettijohn, F. J., 353, 354, 355, Stoker, J. J., 732, 733, 816 Saville, T., 66, 303, 477, 557, 356, 406, 1251 Stokes, G. G., 734 727, 809, 847, 848, 1142, Pierson, W. J., Jr., 719, 846, Strahler, A. N., 1179, 1180, 1225, 1143, 1144 1133 1226 Sawyer, W. L., 1044 Pincus, H. J., 555 Stratton, A. C., 1151 Podufaly, E. T., 84

Savage, R. P., 726, 808, 912,
1138, 1139, 1140, 1141, 807
Saville, T., 66, 303, 477, 557,
727, 809, 847, 848, 1142,
1143, 1144
Sawyer, W. L., 1044
Schalk, M., 365
Scheidegger, A. E., 1256
Scholl, D. W., 261
Schou, A., 27, 58
Schroeder, K. B., 478
Schupp, R. D., 142
Schureman, P., 885
Scott, T., 531
Scott, W. H., 1045
Scripps Institute of Oceanography,
728, 810, 811, 812, 864, 959
Sears, M., 1257

Poole, D. M., 407

Potter, F. C., 24

Powers, W. E., 358

Prentiss, L. W., 85

Price, W. A., 49, 86

Proudman, A. J., 1253

Purpura, J. A., 1134

Putman, J. L., 610

863

Powers, M. C., 357, 408

Progress in Oceanography, 1252

Putnam, J. A., 803, 804, 862,

Swarbrick, E. E., 283 Sweeting, M. M., 152 Taney, N. E., 33 Tannehill, I. R., 914

Sundborg, A., 479

Svasek, J. N., 617

Svendsen, SV., 559

817, 1262

Sverdrup, H. U., 736, 737, 738,

Suguet, F., 735

Seed, H. B., 143

Tanner, W. F., 34, 35, 153, 154, 262, 263, 264, 413, 480 Terry, R. D., 533, 1287 Thompson, W. F., 155 Thompson, W. O., 265, 266, 267 Thorn, R. B., 1051 Thornbury, W. D., 1263 Threet, R. L., 414 Tickner, E. G., 915 Tinny, E. R., 268 Todd, D. K., 89, 916 Trask, P. D., 36, 156, 157, 158, 370, 371, 372, 560, 1263 Trefethen, J. M., 269 Tucker, M. J., 739, 740, 962 Turner, M. D., 1052 Tuttle, S. D., 37 Twenhofel, W. H., 373, 374, 375, 415 Tyler, S. A., 376

U

Udden, J. A., 377 Ufford, C. W., 741, 742, 743 University of California, 481, 482, 534, 535 University of Iowa, 483 Unna, P. J. H., 744, 849 U. S. Army, Corps of Engineers, 888, 1152, 1153, 1154, 1156 U. S. Congress, 1155 U. S. Department of Commerce, 889, 890 U. S. Department of Interior, 1053 U. S. Hydrographic Office, 745, 818 U. S. Navy, 746

V

Valembois, J., 561 Vanoni, V. A., 273, 485 Van Straaten, L. M. J. U., 270, 271, 272, 484, 872 Vause, J. E., 38 Vesper, W. H., 1157 Vincent, G., 536 Van Arx, W. S., 1264

w

Wadell, H., 416, 417
Ward, H. A., 747, 1054
Warntz, W., 1227
Waters, C. H., 159
Waterways Experiment Station,
215, 429, 486, 487, 488, 489,
490, 819, 820, 822, 963, 964,
1055, 1056, 1158
Watts, G. M., 160, 161, 305, 306,

537, 562, 1159, 1160, 1161 Weather Bureau, Dept. of Commerce, 917 Weatherwax, H. E., 1057 Welch, W. L., 67 Wentworth, C. K., 418, 419 West, P. J., 378 Wheeler, W. H., 538, 563 White, C. M., 491, 492 Whitney, P. C., 891 Whitten, E. H. T., 1181, 1228 Wiegel, R. L., 162, 163, 748, 749, 750, 751, 752, 823, 824, 850, 1162 Williams, A. J., 753 Williams, E. A., 851 Williams, J., 1265 Williams, L., 1288 Williams, W. W., 164, 284, 1266 Wilson, B. W., 754, 918 Wimberley, C. S., 379 Wong, S. T., 1229 Wood, H. A., 165 Wood, W. F., 1230 Woodford, A. O., 274 Woods Hole Oceanographic Institution, 166, 167 Wright, F. F., 618

Y

Yasso, W. E., 39, 619 Yalin, M. S., 163 Yoshida, K., 755, 756 Yu, Y., 825

Z

Zenkovitch, V. P., 40, 41, 169, 170, 171, 172, 493, 494, 620, 621, 622
Ziegler, J. M., 90, 173, 174, 175, 176, 177, 285, 286

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- 13. ABSTRACT: Enter an abstract giving a brief and factual summery of the document indicative of the report, even though it may also appear elsewhere in the body of the technical report. If additional space is required, a continuation sheet shall be attached.

It is highly desirable that the abstract of classified reports be unclassified. Each paragraph of the abstract shall end with an indication of the military security classification of the information in the paragraph, represented as (TS), (S), (C), or (U).

There is no limitation on the length of the abstract. However, the suggested length is from 150 to 225 words.

14. KEY WORDS: Key words are technically meaningful terms or short phrases that characterize a report and may be used as index entries for cataloging the report. Key words must be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location, may be used as key words but will be followed by an indication of technical context. The assignment of links, rules, and weights is optional.